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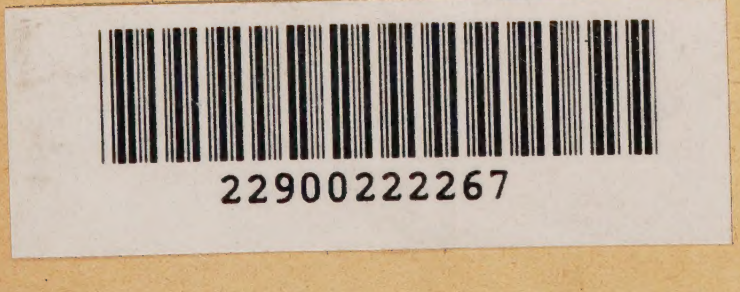
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TRANSACTIONS

OF THE

MEDICAL SOCIETY

OF THE

STATE OF PENNSYLVANIA,

AT ITS

FORTY-SIXTH ANNUAL SESSION,

HELD AT

HARRISBURG, 1896.

VOLUME XXVII.

PUBLISHED BY THE SOCIETY.

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1896.

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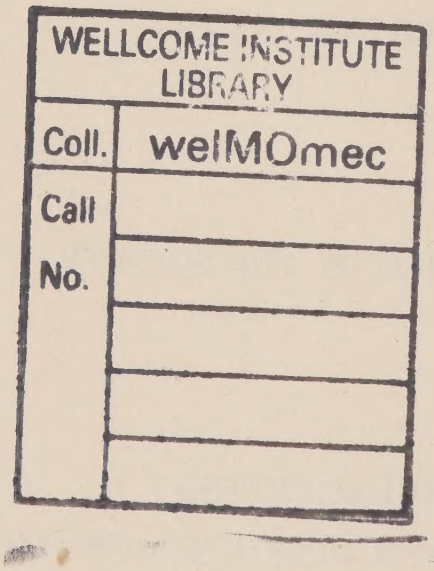

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CONTENTS.

	PAGE.
Officers and Standing Committees for the Year 1896-97	v
Members present at the Meeting of 1896	viii
American Medical Association, Information	xiv
Minutes of the Annual Meeting	1
Report of the Delegates from Pharmaceutical Association	33
Report of Committee on Unethical Advertisements	35
Address of the President	37
Address in Mental Disorders	45
Address in Surgery	54
Address in Hygiene	62
Address in Obstetrics	93
Address in Medicine	101
Prevention of Tuberculosis. E. B. Borland	109
The Antiseptic Factor of the Treatment of Typhoid Fever. J. C. Lange	114
Elimination, Antisepsis and Starvation in the Treatment of Typhoid Fever. H. S. McConnell	118
Alcoholic Stimulants in Typhoid Fever. Theo. P. Simpson	124
Therapy of Veratrum Viride. John M. Batten	129
A Practical Way to Increase the Membership. S. S. Towler	132
Irritable Uterus. T. D. Davis	135
Acute Pelvic Peritonitis from the Standpoint of the General Practitioner. J. M. Baldy	139
Alcoholic Stimulants in the Treatment of Disease. James Fulton	144
Speech Defects, Their Causes and Treatment. G. Hudson Makuen	149
Gelsemium as a Remedial Agent. J. Warren Roop	154
The Treatment of Pelvic Inflammatory Conditions Through Vaginal Incision. E. E. Montgomery	160
Clinical Report on the Use of Testicular Fluid Injections. F. Savary Pearce	165
Some Therapeutic Uses of Guaiacol. J. M. Anders	180
The Operation of Supra-Pubic Cystotomy. R. W. Stewart	185
Remarks on Perforation of the Nasal Septum. Carl Seiler	189
The Chief Predisposing Influence in the Production of Tuberculosis. E. O'N. Kane	194

The Hygiene of Pregnancy. Mary McCay Wenck . . . 198
Pathology of the Blood in the Insane. Wm. H. Harrison . . 205
Records of Work in the Woman's Hospital of Philadelphia. Anna M. Fullerton 213
Milk Filtration. W. C. Hollopeter 217
Fibroid Uterus, When and How to Operate. Geo. E. Shoemaker . 221
Obscure Traumatic Lesions of the Encephalon. Walter H. Parcels 227
The Medico-Legal Aspect of Eye and Ear Cases. J. Walter Park 231
Reduced Period of Intubation by the Serum Treatment of Laryngeal Diphtheria. Edwin Rosenthal 238
Special Forms of Rectal Fistula. William M. Beach . . . 251
Nervous Sequellæ of Influenza. Horace K. Regar 255
Contribution to the Clinical Study of Digitine. Henry Beates . 259
Phono- and Pneumo-Massage in Suppurative Diseases of the Ear. Louis J. Lautenbach 263
The Significance of Murmurs in the Diagnosis of Valvular Disease of the Heart. Aloysius O. J. Kelly 271
The Abuse of Digitalis. W. T. English 285
A Clinical Study of the Correlation Between the Iris Reflex and the Patellar Tendon Reflex. W. Reber and A. W. Wilmarth . . 290
Simple and Efficient Treatment of Chronic Catarrhal Deafness. B. Alex. Randall 296
Unusual Complications of Typhoid Fever. J. I. Johnston . . 301
Clinical Facts Concerning Eye Strain. Jean Saylor-Brown . . 307
Unusual Conditions Due to Malarial Intoxication. H. A. Mowery 315
The Prismatic Perimeter. J. E. Willetts 319
External Hemorrhoids. L. H. Adler, Jr. 332
Medical Registration in Cumberland County. R. L. Sibbet . . 340
The Local Issue of Sanitary Reform. William P. Munn . . 343
Salol in Diarrhea. M. H. Fussell 355
The Therapeutics of Sciatica. L. B. Kline 358
The Surgical and Mechanical Relief of so-called Hopeless Paralytic Cripples. De Forest Willard. 361
Reports of County Societies 367
History of the Society. W. B. Atkinson 379
Memorial Page 442
List of former Presidents 443
Officers and Members of County Societies. 445
Index 490

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S. S. TOWLER, " " 1899.
ADOLPH KOENIG, " " 1900.
FRANK LEMOYNE, *Chairman*, " " 1901.
501 Market St., Pittsburg.

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In Surgery, J. Chalmers Da Costa, Philadelphia.
In Obstetrics, J. M. Baldy, Philadelphia.
In Mental Disorders, Theodore Diller, Pittsburg.
In Ophthalmology, Jos. E. Willetts, Pittsburg.
In Hygiene, A. P. Brubaker, Philadelphia.

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Thos. D. Davis, Pittsburg
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Adolph Koenig, Pittsburg
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Wm. T. Larimer, Allegheny
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J. Guy McCandless, Pittsburg
T. M. T. McKennan, Pittsburg
F. S. Riggs, Allegheny
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Robt. Latshaw Walker, Jr., Carnegie
X. O. Werder, Pittsburg
Jos. Ellwood Willetts, Pittsburg

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Butler County:
Adam Clarke Davis, Sarversville
Albert Holman, McCandless
J. W. F. Moore, Butler

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H. Somerville, Chest Springs
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J. A. Miller, Harrisburg, Repsentative from Penna. Pharmaceutical Association
Gaius M. Brumbaugh, Washington, D. C.

AMERICAN MEDICAL ASSOCIATION.

THE American Medical Association, with which the Medical Society of the State of Pennsylvania is affiliated, will meet in Philadelphia, Pa., Tuesday, June 1, 1897. The Officers are: President, N. Senn, Chicago, Ill.; Permanent Secretary, Wm. B. Atkinson, 1400 Pine St., Philadelphia; Treasurer, Henry P. Newman, Venetian Building, Chicago, Ill.

Membership.—Any member of a county medical society entitled to representation in the Medical Society of the State of Pennsylvania, *can become a member of the American Medical Association* by sending a certificate of good standing in his County Society, signed by its Secretary and President, with the annual dues, $5.00, to the Treasurer of the Association.

The *Journal of the American Medical Association* is, excepting the *British Medical Journal* and the *Lancet*, the largest weekly medical journal in the world. It contains not only the proceedings of the Association with the addresses delivered before it, and proceedings of its sections and the papers read before them, and the discussions they elicit, with items of Association news; but it also includes a large amount of original matter not elsewhere published, the transactions of State and other medical societies, editorials on matters of medical interest, correspondence, selections from current medical literature, book notices, and a record of current events of interest to the American medical profession unexcelled by any medical journal published. Each member of the Association receives the journal, making two volumes each year of over one thousand large double-column pages each, *without other expense than his annual membership dues.*

MINUTES OF THE PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA,

AT ITS

FORTY-SIXTH ANNUAL SESSION,

HELD AT

HARRISBURG, MAY 19, 20, 21, 1896.

The Medical Society of the State of Pennsylvania met in the hall of the House of Representatives at Harrisburg, May 19, 1896, and was called to order at 9.30 A. M. by the President, Dr. William S. Foster, of Allegheny County. The other officers present were: Dr. John Montgomery, of Franklin; Dr. A. P. Hull, of Lycoming; and Dr. A. B. Brumbaugh, of Huntingdon, Vice-Presidents; Dr. William B. Atkinson, of Philadelphia, Secretary; Dr. C. L. Stevens, of Bradford, Assistant Secretary; and Dr. George B. Dunmire, of Philadelphia, Treasurer.

Prayer was offered by Rev. E. N. Kremer, D. D., of Harrisburg.

The presentation of the register of delegates was, on motion, postponed.

Hon. Daniel H. Hastings, Governor of Pennsylvania, was then introduced and delivered an Address of Welcome.

In the absence of the Mayor, Andrew Seitz, Esq. then welcomed the Society on behalf of the citizens of Harrisburg.

Dr. W. T. Bishop, Chairman of the Committee of Arrangements, welcomed the Society on behalf of the profession, and presented the program.

On motion the program was then adopted as the order of proceedings.

On motion of Dr. Bishop, all visitors, the members of the Boards of Managers of the various institutions, and the members of the Dauphin County Medical Society were invited to seats with the Society.

On motion of the Secretary, Mr. J. A. Miller, representative from the Pennsylvania Pharmaceutical Society, and Dr. G. M. Brumbaugh, of Washington, D. C., were made members by invitation.

Dr. Brumbaugh returned thanks for the honor, and asked the attention of the Society to the bill before Congress to prohibit vivisection in the District of Columbia.

Mr. Miller also thanked the Society for the honor.

The Secretary then read his report, which on motion was received and filed.

Report of Secretary.

The Secretary respectfully reports that the profession has organized Medical Societies in Snyder, Erie, Bedford, Tioga and Juniata Counties, with bright prospects of good work.

In many of the Counties the membership is increasing, but few appear to remain at a standstill, and only one or two are in a state of decadence.

The efforts of the Committee on Increase of Membership have been productive of much good result. It is to be hoped that this Committee will continue its work of stimulating Medical Organizations, and that the members of the various Societies will regard it a special duty to urge all reputable physicians to connect themselves with the Societies of their respective Counties.

W. B. Atkinson, *Secretary.*

The Treasurer then read his Annual Report which was received and referred to the Auditors.

Treasurer's Report.

Philadelphia, May 19, 1896.

Your Treasurer would respectfully submit the following report :

1895.		Dr.	
June 1.	To cash balance, as per last annual report, . .		$2,330 28

1896.			
May 2.	To cash, gross receipts from County Societies during the year, ...	3,222	50
May 19.	To cash, interest on deposits to date, . . .	38	53
	Total,	$5,591	31

1895. Cr.

Aug. 30.	By cash, printing Transactions, and reprint of Charter and By-Laws and shipping same, . . .	$1,851	59
June 3.	By cash, expenses of Annual Meeting for 1895, .	311	30
June 3.	By cash, expenses salaried officers and expenses, .	672	61
June 3.	By cash, expenses of Committee on Legislation, .	15	25
June 3.	By cash, expenses of Committee on Scientific Business, ...	46	64
June 3.	By cash, expenses of Committee on Increase of Membership, ...	170	10
1896.			
May 19.	By cash, incidental expenses to date, . . .	20	26
May 19.	By cash, balance in bank, ...	2,503	31
	Total,	$5,591	31

Forty nine Counties have paid their assessments during the fiscal year. From the time notices were sent out, August 1st, to the end of the constitutionally required time (30 days), nineteen Treasurers, of as many Counties, had responded by forwarding the amount of assessment. The names of the Counties so honored, are as follows in the order of precedence: Venango, Warren, Franklin, Green, McKean, Dauphin, Bucks, Huntingdon, Berks, Montgomery, Columbia, Luzerne, Cambria, Bradford, Chester, Mifflin, Susquehanna, Washington, Butler, Lancaster, Lehigh and Armstrong for the year 1895; also Allegheny.

The Counties tardy in sending their assessments were as follows: Fayette, Lycoming, Carbon, Northampton, Beaver, York, Mercer, Center, Somerset, Indiana, Westmoreland, Delaware, Philadelphia, Lebanon, Clinton, Blair, Jefferson, Bedford, Schuylkill, Crawford, Elk and Armstrong for 1894 and '95, and Cumberland.

To the credit of Armstrong it should be mentioned that during the year that County has paid three assessments, namely, '93, '94, '95.

G. Benson Dunmire, *Treasurer.*

Dr. Dunmire then read the report of the Committee on Publication.

Report of the Committee on Publication.

The Volume of Transactions for 1895 was one of 516 pages. Two thousand seven hundred and fifty copies were printed at a cost of $1,804.49 or about 65½ cents per copy. Of these 87 were distributed to Medical Societies, Libraries and Medical Journals, and the remainder transferred to the Treasurer for distribution to the County Societies. The volume was ready for distribution in August, and excessive delays in receiving it have been due to the failure of County Societies to pay promptly their portions of the assessment, or to distribute the books among their members.

Regarding the publication of the Society's Transactions in the form of a journal, referred to us for consideration, we are not fully agreed. Three members of the Committee favor the change, three, while agreeing to it, feel some doubt as to its advisability, and one is opposed to it.

We believe, however, that if it is undertaken to publish a journal, it would be very unwise to depend on any outside source of revenue to meet the cost of such publication. Advertisements of the kind we would be willing to publish could not be depended on to yield any important revenue at first; and any arrangement by which outside parties should be given an essential interest in our journal would prove ill-advised.

The annual income of the Society is something over $3,000, and with this there has been some increase in the balance of funds in the treasury for the last two years. We believe with proper economy the Society could prudently devote about $2,500 per year to the publication of a journal.

With this we could publish, including editorial expenses, and furnish directly to each member of the County Societies a quarterly journal of about 125 double column pages such as those of the Century Magazine. This would give space for the matter now furnished in our annual volume of Transactions, with about 50 per cent. of additional space for other matter that might be of equal service to our constituent societies and members. The first number of each volume might be issued by the 15th of June, and it with the number issued in September could contain all the papers read at the Annual Meeting. Reports of County Societies, lists, etc., could appear in subsequent numbers. All announcements could best be made through the journal, and something thus saved from the item of miscellaneous printing.

The advantage of quarterly publication is that it reduces to the minimum the cost of editing, binding, mailing and postage; yet it would allow the development of such an organization as would be required when increased revenue justified more frequent publication.

We believe that the change from an annual volume to a quarterly journal could be made by simple resolution of the Society, but that to

permanently establish a journal it would be best to amend Article XIII of our By-Laws so that Section 3 would read as follows:

"The Committee on Publication shall consist of nine members, two to be chosen each year by the Committee on Nominations, subject to the approval of the Society—these to hold office for three years—and the Secretary, Treasurer and Chairman of the Committee on Scientific Business, ex-officio members. It shall be the duty of this Committee to publish a journal to be called the *Pennsylvania Medical Journal*, which shall contain the minutes of the annual meeting, reports of committees and of County Societies, addresses and the scientific papers, with the discussions thereon, with other matters, subject to the discretion of the Committee; *Provided*, however, that no decided change or abbreviation of any scientific communication shall be made without the consent of the author. Each annual volume shall also contain a list of the various County Societies, with the names of their officers and members; also a carefully prepared index. The Committee shall report annually."

Signed in behalf of the Committee,

EDWARD JACKSON, *Chairman.*

On motion it was accepted.

Dr. LeMoyne, Chairman of the Committee on Scientific Business, presented his report.

Report of the Committee on Scientific Business.

HARRISBURG, May 19, 1896.

Mr. President, Ladies and Gentlemen: The Scientific Business Committee offers a contribution to the proceedings of this session of the Medical Society of the State of Pennsylvania of sixty-four papers, which we believe to be a creditable representation of the interest, ability and enterprise of our members.

The successful experiment of the last session, has seemed to justify the request that all papers should be limited to ten minutes in delivery, and that each discussion should be limited to five minutes. The papers have been offered with that understanding, and we respectfully recommend that a similar rule shall be adopted for this session.

At the request of several members, one of the subjects, in which the greatest interest was manifested at the last session, was selected for grouping. The number of papers offered on any other subject did not seem to justify similar treatment.

On December 20, 1895, notices were issued to all members on the Transaction's list for that year, that applications of authors of papers for positions on the program for this session, should be made before March 20, 1896. Eight applications were made after that date which could not

be considered. In conformity with the sentiment of this Society, it has been our intention and endeavor to exclude all literature which seemed to advocate patented or proprietary preparations. We emphatically endorse the recommendation of the general Secretary, that great care should be exercised by local Secretaries to report by accurate and reliable lists, the members of County Societies, as the list published in the last volume of our Transactions is the only available and practicable information in regard to the membership rights and privileges of this organization.

In order to facilitate the transaction of business, we respectfully recommend the enactment of a By-law by which the annual addresses to this Society, except that of the President, shall be discontinued, and that other papers shall be limited to ten minutes in delivery and discussions to five minutes. In our intercourse with the members we have experienced marked courtesy, and in consideration of which we take pleasure in expressing the highest appreciation. We present herewith an account showing forty-six dollars due the Chairman of this Committee for printing, stationery and postage stamps, upon which an audit and authority for settlement are requested.

F. LeMoyne,
S. S. Towler,
Adolph Koenig.

On motion of Dr. Bishop the report was accepted and referred to the Auditors.

The recommendations for the repeal of the By-Law for the appointment of persons to make addresses, and the adoption of a rule limiting the other papers to ten minutes and the discussions to five minutes, were laid over as amendments to the By-Laws.

The Committee on Pharmacy presented its report.

Report of the Committee on Pharmacy.

Mr. President and Members of the Medical Society of the State of Pennsylvania: Your Committee on Pharmacy submits the following report:

At the meeting of the Society held at Bedford Springs in 1887, the following resolutions presented by W. G. Weaver, J. W. Holland and Howard A. Kelly, were adopted.

"Whereas, the prescribing of proprietary and copyrighted medicines has become an evil whose tendency is to create a spirit of indifference among medical practitioners to the claims of true and legitimate therapeutics, and

"Whereas, the practice of prescribing such medicines is an unmitigated evil and an injury to the medical profession and opposed to the Code of Medical Ethics, therefore

"*Resolved*, that this Society express its hearty approval of the resolutions presented by the Pennsylvania Pharmaceutical Association, recommending that physicians prescribe official preparations in preference to all others, and that in no event should physicians prescribe preparations, the working formulæ of which are not clearly published or made known."

This distinct and unmistakable expression of opinion on an important subject, touching closely the welfare of both medicine and pharmacy, has been reaffirmed at many annual meetings since 1887. At the last annual meeting of the Society, Chambersburg, 1895, the following resolution was unanimously adopted:

"The Committee of Arrangements of each annual meeting shall grant the privilege of exhibition under the auspices of this Society only to such pharmaceutical articles as are recognized by the United States Pharmacopœia, or are not protected by a trade mark, secrecy of preparation, or other exclusive proprietorship. This resolution shall be printed on each annual program."

In the opinion of your Committee, among the many beneficent acts that grace the history of the Medical Society of the State of Pennsylvania, none will surpass this in ultimate good. By this resolution this Society gives public notice that it is the champion of candid, honest and humane therapeutics, and the uncompromising foe of everything that smacks of ignorance, mystery or charlatanism. In accordance with the principle enunciated in the foregoing resolutions, your Committee may be excused for calling the attention of the members to the fact that the United States Pharmacopœia and its unofficial supplement, the National Formulary, contain everything of approved value in remedial drugs, and offer in many instances preparations that are essentially identical with many popular proprietary medicines and nostrums.

From the Pharmacopœia your Committee selects the following as instances:

Adeps Lanæ Hydrosus, commercially known as lanolin.

Aquæ Hydrogenii Dioxidi, the official peroxide of hydrogen.

Acetanilid, copyrighted under the name Antifebrine.

Petrolatum Liquidum, essentially identical with "liquid albolene."

Petrolatum Molle, vaseline or cosmoline.

Pilulæ Ferri Carbonatis, popular under the name of Blaud's pill.

From the National Formulary these are selected:

Formula 206—*Liquor Acidi Phosphorici Compositus*, a preparation similar to Horsford's Acid Phosphate.

Formula 211—*Liquor Auri et Arseni Bromidi*, solution of bromide of gold and arsenic.

Formula 243—*Liquor Sodii Carbolatus*, the disinfectant known as Phenol Sodique.

Formula 262—*Mistura Chloroformi et Cannabis Indicæ Composita*, known and sold as chlorodyne.

Formula 263—*Mistura contra Diarrhœam*, the widely known Sun Cholera Cure.

Formula 312—*Pulvis Acetanilidi Compositus*, essentially equivalent, both chemically and therapeutically, to the nostrum antikamnia.

Formula 327—*Pulvis Pepsini Compositus*, a parallel preparation to Lactopeptin.

Formula 378—*Syrupus Hypophosphitum Compositus*, an efficient substitute for the well known commercial compound Syrups of the Hypophosphites.

Formula 445—*Vinum carnis et Ferri*, probably better than any of the proprietary compounds of beef, wine and iron.

The foregoing are but a few of the preparations available and which should displace those that are protected by "trade mark, secrecy of preparation, or other exclusive proprietorship."

In conclusion the Committee would respectfully urge upon the members of the Society a more intimate acquaintance with the resources offered them by legitimate pharmacy, and to that end the Committee recommends that the Committee of Arrangements for the next annual meeting request the Pennsylvania Pharmaceutical Association to prepare an exhibit of Pharmacopœial and National Formulary preparations for the meeting in 1897, and they would also respectfully recommend that a copy of the United States Pharmacopœia be conveniently at hand in every physician's library, and that it be a text-book in every medical school in the United States.

KATE D. MEISSE,
DAVID TAGGART,
JOHN B. DONALDSON,
J. N. HUNSBERGER,
CHARLES S. SHAW, *Chairman.*

On motion the report was received and filed, and the Secretary was instructed to transmit a copy to the Secretary of the Pennsylvania Pharmaceutical Society for its meeting in June.

The Committee on Increase of Membership reported as follows:

Report of the Committee on Increase of Membership and Extension of Polyclinic Teaching.

In addition to a somewhat extended correspondence, there was mailed to the President and Secretary of each County Society in June, 1895, a list of members of this Society who would be willing to visit County

Societies once or more during the year, and read a paper or give a clinical or didactic lecture before the Society, the County Society in each case paying the travelling expenses.

The revised list mailed January 1, 1896, was accompanied with a printed letter, with a copy of the program of the Bradford County Medical Society for 1896, and with slips containing extracts from "The Physician Himself," by Dr. Cattell, showing the importance of membership in Medical Societies, and extracts from editorials in the *Lehigh Valley Medical Magazine* on "More Efficient Medical Societies," and "The Necessity for Organization." This printed matter was not only mailed to the President and Secretary of each County Society in the State, but to a number of workers in each Society, and, so far as possible, to each physician supposed to be eligible to membership in a County Society, residing in Counties having no organization. Twenty-one appointments for lectures before County Societies have been made by the Committee during the year.

Erie, Tioga, Juniata and Snyder Counties have organized societies during the year, and are now in full affiliation with this Society. Favorable reports have been received from a number of societies showing an increase of membership, in one or two cases as high as 100 per cent. For the first time in recent years the Treasurer of this Society reports no society in arrears for annual assessment.

The annual appropriation of $50.00 for the use of this Committee is not sufficient to allow of much, if any, personal missionary work by members of the Committee or by members of this Society working under the direction of the Committee. The expenses of the Committee for the year have been $59.43, but there is now on hand sufficient stationery for the coming year. In conclusion the Committee desires to remind the members of the Society that this Committee can accomplish but little unless its efforts are seconded by the individual members of the various County Societies. If the County Societies are live, progressive, scientific societies, the increase of membership will be sure and continuous.

Respectfully submitted,

C. L. Stevens,
A. C. Wentz,
Thos. D. Davis.

On motion the report was received and filed.

The Committee on Legislation reported as follows:

Report of the Committee on Legislation.

The Committee on Legislation reports that in accordance with the instructions given it by the Medical Society of the State of Pennsylvania, at

the meeting held in 1894 in Philadelphia, it memorialized the Legislature on the subject of a bill providing that no physician or surgeon shall be compelled to give testimony against his patient in civil cases where he has received confidential communications from said patient. The bill was introduced into the House by Honorable Jerome Niles and passed that branch of the Legislature before the last meeting of this Society, as reported a year ago by this Committee at Chambersburg. (See Transactions, May, 1895, pp. 34, 35). It affords your Committee much satisfaction to report further, since the last meeting of this Society this bill passed the Senate and was duly approved by the Governor and became a law on June 18, 1895. It may be interesting to have the fact incorporated in this report, however, that when the bill came up for third reading in the Senate, and the final vote was taken and the yeas and nays called, the yeas numbered twenty and the nays six. The yeas having been less than a majority of the members of the Senate, the bill was defeated, until Senator Woods on the following day moved a reconsideration of the vote of the previous day. When the yeas and nays were again called, the bill passed unanimously.

The Committee also reports that the bill providing for the Care and Treatment of the Insane in our State Hospitals in Pennsylvania, which are owned by the State or receive State aid, was introduced by Senator Saylor, and met with favor in the Senate, but was not favorably reported by the Judiciary General Committee of the House. Subsequently, on the 27th of March, General Gobin brought a somewhat similar bill before the Senate asking for the enactment of a law which shall have for its provisions the appointment of, and to confer upon, Boards of Trustees entire control of all hospitals for the insane in Pennsylvania, which are owned by the State or receive State aid. The Act provides furthermore, for the appointment by the Trustees of a well qualified male physician and such assistant male physicians as shall be necessary to have the medical care and treatment of the male insane, and for the appointment by the same body, of a skilled female physician and such female assistants as may be needed to have the exclusive medical treatment and care of the female insane in all such hospitals; they shall, however, be under the exclusive control of the superintendent. This bill also passed the Senate but was negatived by the Judiciary General Committee of the House, which practically killed the bill and it never went before the House.

By reason of certain alleged irregularities in several of our State Hospitals for the Insane, which resulted in much controversy and the appointment by the President of the Senate of a Legislative Committee to investigate serious charges instituted, and because of the fact, furthermore, that a considerable number of the profession, including many leading alienists, are antagonistic to the legislation proposed by this Society, your Commit-

tee was confronted with formidable difficulties, and has not been able to secure the passage of the bill against such adverse forces operating against the measure.

This Committee keenly feels the responsibility put upon it by this Society and it is with a sense of relief that it makes this final report, and once again asks to be discharged.

All of which is respectfully submitted,

I. C. GABLE, *Chairman.*
ALEX. CRAIG,
H. L. ORTH.

On motion of Dr. Bishop the report was received and filed, and the Committee continued for another year.

The President appointed as Auditors Drs. E. S. Riggs, W. B. Lowman and T. P. Simpson.

Dr. F. LeMoyne presented an invitation from the Allegheny County Medical Society for the Society to hold its next annual meeting in Pittsburg. This was referred to the Committee on Nominations.

A motion to permit Dr. Borland to change places on the program with Dr. Lange was lost.

On motion of Dr. Towler, Drs. Lange and McConnell were permitted to change places.

Dr. LeMoyne offered the following:

Whereas, it is deemed necessary that the authors of addresses and papers shall receive early notice of the arrangement of the program for the sessions of this Society

Resolved, that Article XIII, Section 2, of the By-Laws shall be amended by inserting after the word "requisite," "two copies of which shall be forwarded at once to each contributor and to each officer and member of the Committees of this Society."

This was laid over for one year in accordance with the By-Laws.

Dr. G. M. Brumbaugh, of Washington, D. C., then asked the Society to consider the bill before Congress to prohibit vivisection in the District of Columbia, and on motion of Dr. J. J. Buchanan, of Allegheny County, the matter was referred to a Committee of Three to prepare and report proper resolutions, after conference with Dr. Brumbaugh.

The following Committee was appointed: Drs. Buchanan, I. C. Gable, of York County, and H. S. McConnell, of Beaver County.

On motion, Dr. W. Murray Weidman, of Berks County, Chairman of the Committee on Rush Monument, was granted permission to report later.

On motion of Dr. J. H. Wilson, of Beaver County, the report of the Special Committee on the vivisection matter in the District of Columbia was made the first order for the afternoon meeting.

The President announced that it was the duty of the several delegations to select their members of the Committee on Nominations immediately at the close of the session.

On motion of Dr. LeMoyne the following was unanimously adopted:

Whereas, contagious and infectious diseases cause a large proportion of the suffering, disability and death of the human race, and

Whereas, such diseases are to a great extent preventable by proper precautions, and

Whereas, tuberculosis, both bovine and human, is known to be contagious

Resolved, that the Legislature of Pennsylvania be urgently recommended to enact laws by which all centres of population containing 25,000 inhabitants or more, shall be required to provide isolation hospitals with separate wards or buildings each for small-pox, diphtheria, scarlatina and erysipelas, and that provision should be made for extending the facilities of such hospitals to the surrounding populations geographically and commercially dependent upon them.

Resolved, that laws should be enacted requiring that all cows producing milk should be tested, by the most approved methods, for tuberculosis at least once in six months, and that all cows found to be tuberculous should be condemned.

Resolved, that provision should be made for the positive diagnosis of all cases of suspected pulmonary tuberculosis, and that Boards of Health should be required to enforce adequate precautions against its dissemination.

Resolved, that in consideration of the pernicious character of the water delivered to a large proportion of the people of this country, legislation for the protection of streams from pollution is urgently demanded.

The Society then adjourned until 2 P. M.

Afternoon session.

The President called the Society to order at 2 P. M.

Dr. Charles M. Franklin, of Lancaster County, read the Address in Mental Disorders.

Dr. Buchanan, Chairman of the Special Committee, reported as follows:

Whereas, Senate Bill No. 1552, entitled "A Bill for the further prevention of cruelty to animals in the District of Columbia" is pending in the Congress of the United States, and

Whereas, We, the Medical Society of the State of Pennsylvania, are fully convinced that this restrictive legislation, should it become a law, would seriously cripple the efforts of the earnest scientific investigators of the District of Columbia (and indirectly of the United States) and would retard the progress of medical science in its beneficent efforts to alleviate suffering and diminish the ravages of disease, and

Whereas, Cruelty to animals is not practiced in the District of Columbia by those scientists who unselfishly and with great personal risk strive to increase our knowledge of disease and of the methods of its prevention and cure, therefore be it

Resolved, That the Medical Society of the State of Pennsylvania hereby urges the Pennsylvania delegation in the Congress of the United States to use all honorable means to defeat the said bill or any similar restrictive measure.

Resolved, That copies of these resolutions, attested by the Secretary of the Medical Society of the State of Pennsylvania, and signed by the President, be sent to each member of the Pennsylvania delegation in Congress, and to the Chairman of the Committees on the District of Columbia, of the Senate of the United States, and of the House of Representatives.

The preambles and resolutions were, on motion, unanimously adopted.

NOTE-- Copies were at once transmitted in accordance with the above, and the Secretary received several replies before the Society adjourned.

Dr. E. B. Borland, of Allegheny County, read a paper on "The Prevention of Tuberculosis," which was discussed by Dr. LeMoyne, of Allegheny County, and Dr. James Fulton, of Chester County.

The following papers were also read: by Dr. J. C. Lange, of Allegheny County, on "The Antiseptic Factor of the Treatment of Typhoid Fever;" by Dr. H. S. McConnell, of Beaver

County, on "Elimination, Starvation and Antiseptics in the Treatment of Typhoid Fever;" by Dr. T. P. Simpson, of Beaver County, on "The Use of Alcoholic Stimulants in Typhoid Fever."

These were discussed by Drs. H. G. McCormick, of Lycoming County; S. S. Towler, of Butler County; Jane K. Garver, of Dauphin County; J. H. Wilson, of Beaver County; T. D. Davis, of Allegheny County; J. C. Lange, of Allegheny County.

These papers were then read: by Dr. J. M. Batten, of Allegheny County, on "The Therapy of Veratum Viride;" by Dr. S. S. Towler, of Butler County, on "A Practical Way to Increase the Membership;" by Dr. T. D. Davis, of Allegheny County, on "The Irritable Uterus of Pregnancy."

On motion of Dr. John B. Roberts, of Philadelphia, the following proposed amendments to the By-Laws were taken up for consideration:

ARTICLE XII, Sec. 7. Add at the beginning of the section:—The Trustees shall have general supervision of the business of the Society, hold at least two meetings every year, and make a report at the Annual Session of the Society.

ARTICLE XIII, Sec. 3, by adding:—Or the Committee may at their discretion publish the Transactions in journal form.

After some discussion the first amendment was unanimously adopted. In the discussion which took place on the second amendment, Dr. C. L. Stevens, of Bradford, called for the reading of the report of the Committee on Publication. This report recommended the issuance of a quarterly journal in place of the annual volume of Transactions. Considerable discussion followed, participated in by Drs. G. B. Dunmire, H. A. Hare, S. S. Towler, C. A. Rahter, Adolph Koenig, T. P. Simpson and W. T. Bishop; when Dr. Roberts withdrew his motion to adopt the amendment. A motion to lay the amendment on the table was carried, and Dr. Roberts then moved that the recommendation of the Committee on Publication be referred to the Trustees with power to act. After much further discussion, "with power to act" was stricken out, and the motion as amended was adopted.

Dr. Roberts presented a report of the Committee on Improvement of the Business Methods of the Society.

Report of the Committee on Improvement of the Business Methods of the Society.

The Special Committee appointed at the last meeting of the Society to report on "The Improvement of the Business Methods of the Society," suggests the following amendments to the By-Laws :—

Amend Article IV, Section 1, by changing in the 4th line the word "they" to "there."

Amend Article IV, Section 2, by striking out in the 5th line "or on the Judicial Council."

Amend Article VI, by inserting in the 2d line after "shall be," "fixed annually by the Trustees and."

Amend Article XI, by changing in the 3d line "selecting" to "electing."

Amend Article XII, Section 1, in line 5 by inserting after "ex-officio," "President of the Board of Trustees and."

Amend Article XII, Section 3, by inserting in the 6th line after "Treasurer," "The Trustees," and inserting at the end of the Section "he shall receive a salary not to exceed $200 a year, the amount of which shall be fixed annually by the Board of Trustees."

Amend Article XII, Section 5, by striking out in the 1st line "The expenses of the Society can be determined, apportion the annual assessments upon," and insert "The Board of Trustees has fixed the annual assessment of."

Amend the same Section by striking out "and" in the 3d line.

Amend the same Section by striking out in the 7th, 8th and 9th lines "by the Society, signed by the President and Secretary, when the Society is in session and when not in session by the Committee on Publication," and insert "in writing by the Trustees."

Amend the same Section by adding at the end of the Section "and shall be paid a salary not to exceed $200 a year, the amount of which shall be fixed annually by the Board of Trustees."

Amend Article XII, Section 7, by inserting at the beginning of the Section "The Trustees shall have general supervision of the business of the Society, hold at least two meetings every year and make a report at the annual session of the Society. They shall fix annually the assessment of the County Societies and the salaries of the Secretary, Treasurer and Chairman of the Committee on Publication, and issue written orders to the Treasurer authorizing the payment of money. A Committee of the Trustees appointed annually by the President shall audit the accounts of the Treasurer."

Amend Article XIII, Section 2, by striking out in the 7th line the sentence beginning "This Committee" down to the words "before the Society" in the 13th line, and inserting "This Committee shall, in conjunction with the Committee on Scientific Business, have printed one month in advance of each annual meeting, as many copies of the program as may be deemed requisite."

Amend Article XIII, Section 3, by inserting in the 6th line after "Pennsylvania," "or it may at its discretion publish the Transactions in journal form."

Amend the same Section by inserting at the end, "The Chairman of the Committee who shall act as the editor shall be paid an annual salary not to exceed $200, the amount of which shall be fixed annually by the Board of Trustees."

Amend Article XIII, Section 4, by inserting in the 12th line after "societies," "in making nominations for officers of the Society a majority of all the votes cast shall be requisite for a choice. In the event of no candidate receiving a majority, the candidate having the lowest number of votes shall be dropped, and a new ballot shall be taken."

Amend Article XIII, Section 5, by striking out in the 1st line "Three members shall be appointed by the President," and inserting after "consisting of," "the President of the Society, the Chairman of the Board of Trustees and the Secretary."

Amend Article XV, Section 4, by striking out in the 3d and 4th lines "Arrangements and Credentials," and inserting "Scientific Business."

Amend Article XVIII, Section 1, by striking out in the 4th and 5th lines "Publication Committee," and inserting "Board of Trustees."

Amend Article XVIII, Section 2, by striking out the whole of the Section.

All of which is respectfully submitted,

JOHN B. ROBERTS,
W. T. BISHOP,
ALEX. CRAIG,
H. S. MCCONNELL,
Committee.

We hereby propose as Amendments to the By-Laws the changes suggested in the report of the Committee on Improvement of the Business Methods of the Society, which has just been read.

COLLIER L. BOWER,
WILLIAM M. WELCH,
HORACE K. REQAR,
W. T. BISHOP,
JOHN B. ROBERTS,
ALEX. CRAIG.

On motion the report was received and the Committee was discharged.

The President appointed Dr. F. LeMoyne a member of the Committee on Scientific Business to succeed himself.

Dr. W. M. Weidman, of Berks County, presented the following report of the Committee on Rush Monument:

To the President, Officers and Members of the Medical Society of the State of Pennsylvania: The Rush Monument Committee would respectfully report that since its last report little has been done to increase the fund. Those particularly interested are referred to the report of Treasurer of National Committee at Atlanta, as it appears in the Journal of the American Medical Association. At Atlanta the Chairman of the National Committee stated that the Navy Department had granted the use of the Museum Grounds as a site for said monument.

We respectfully ask a continuance of the Committee, with the hope that the ambition of Dr. Gihon may be realized between this and the meeting of the American Medical Association at Philadelphia next June.

W. Murray Weidman.

On motion the report was received and the Committee was continued.

The Society then adjourned until Wednesday morning.

SECOND DAY.

The President called the Society to order at 9.30 A. M.

The Secretary read the following telegram from the Illinois State Medical Society:

Ottawa, Ill., May 20.

The Illinois State Medical Society sends cordial greeting.

John B. Hamilton, Secretary.

On motion of Dr. F. LeMoyne the Secretary was directed to reply as follows:

Harrisburg, Pa., May 20.

Greeting cordially reciprocated. Have passed emphatic resolutions against proposed vivisection legislation at Washington. Hope you will do the same.

W. B. Atkinson, Secretary.

The Secretary announced the Committee on Nominations, as follows:

Allegheny, J. J. Buchanan; Beaver, J. H. Wilson; Berks, W. Murray Weidman; Bradford, C. L. Stevens; Butler, A. C. Davis; Cambria, W. B. Lowman; Carbon, Lawrence H. Smith; Centre, F. H. Van Valzah; Chester, James Fulton; Clinton, R. B. Watson; Cumberland, R. N. Short; Dauphin, H. McGowan; Delaware, Wm. B. Ulrich; Erie, H. J. Dunn; Franklin, H. G. Chritzman; Greene, J. M. Murray; Huntingdon, H. C. Frantz; Indiana, W. L. Shields; Lancaster, Alex. Craig; Lycoming, H. G. McCormick; McKean, Evan O. Kane; Mifflin, W. H. Parcels; Montgomery, J. W. Groff; Northumberland, J. W. Sheets; Philadelphia, James M. Anders; Schuylkill, A. H. Halberstadt; Susquehanna, A. E. Snyder; Venango, F. F. Davis; Warren, C. M. Strickler; Westmoreland, F. L. Portzer; York, Roland Jessop.

On motion, the Committee was instructed to meet at once.

Dr. J. J. Buchanan, of Allegheny County, read the Address in Surgery.

Dr. J. W. Moore, of Northampton County, read the Address in Hygiene.

Dr. J. M. Baldy, of Philadelphia, then read a paper on "Pelvic Peritonitis from the Standpoint of the General Practitioner," which was discussed by Drs. C. P. Noble, G. B. Massey, G. E. Shoemaker, F. LeMoyne, E. O. Kane, and S. S. Towler.

Dr. James Fulton, of Chester County, read a paper on "Alcoholic Stimulation in the Treatment of Disease," which was discussed by Drs. L. F. Flick, E. B. Borland, T. P. Simpson, H. A. Hare, E. O. Kane, and F. LeMoyne.

On motion of Dr. S. S. Towler the session was continued until 12.20.

Dr. G. H. Makuen, of Philadelphia, exhibited a case and read a paper on "The Diagnosis and Treatment of Speech Defects."

On motion, his time was unanimously extended.

Dr. J. W. Roop, of Dauphin County, read a paper on "Gelsemium as a Remedial Agent."

Vice-President John Montgomery of Franklin County, occupied the chair.

Dr. E. E. Montgomery, of Philadelphia, read a paper on "The Treatment of Pelvic Inflammatory Conditions through Vaginal Incisions," which was discussed by Drs. G. B. Massey, J. M. Baldy, C. P. Noble, G. E. Shoemaker, and S. S. Towler.

Dr. Benjamin Lee, of Philadelphia, invited the members to attend the Sanitary Convention to be held in Williamsport, Thursday and Friday.

The Society then adjourned until 2 P. M.

Afternoon session.

The President called the Society to order at 2 P. M.

The Committee on Nominations reported as follows:

Report of the Committee on Nominations.

The Committee on Nominations met in the Senate Chamber, Harrisburg, Wednesday, May 20, 1896, at 9.40 A. M.

Dr. C. L. Stevens, of Bradford Co., was made Chairman, and Dr. H. C. Frantz, of Huntingdon Co., and Dr. F. H. Van Valzah, of Centre Co., Secretaries; Dr. H. G. McCormick, of Lycoming Co., and Dr. J. M. Anders, of Philadelphia Co., Tellers. The Committee respectfully submits the following nominations:

President, Dr. E. E. Montgomery, Philadelphia Co.

First Vice-President, Dr. C. S. Shaw, Allegheny Co.

Second Vice-President, Dr. F. P. Ball, Clinton Co.

Third Vice-President, Dr. T. M. Livingston, Lancaster Co.

Fourth Vice-President, Dr. A. C. Wentz, York Co.

Secretary, Dr. W. B. Atkinson, Philadelphia.

Assistant Secretary, Dr. Adolph Koenig, Allegheny Co.

Treasurer, Dr. G. B. Dunmire, Philadelphia.

Members Judicial Council, Dr. M. A. Rhoads, Berks Co.; Dr. John H. Packard, Philadelphia; Dr. John Curwen, Warren Co.

Committee on Publication, Dr. Edward Jackson, Chairman; Dr. H. A. Hare, Philadelphia; Dr. G. W. Guthrie, Luzerne; Dr. J. H. Wilson, Beaver; Dr. D. W. Nead, Dauphin.

Censors.

1st District.—J. W. Walk, of Philadelphia; S. P. Bartleson, of Delaware; James Fulton, of Chester.

2d District.—J. B. Walker, of Bucks; E. M. Green, of Northampton; Wm. B. Erdman, of Lehigh; Wm. L. Kutz, of Carbon.

3d District.—J. K. Weaver, of Montgomery; W. Murray Weidman, of Berks; A. F. Bronson, of Schuylkill.

4th District.—T. M. Livingston, of Lancaster; H. McGowan, of Dauphin; B. P. Hooke, of Perry; Wm. M. Guilford, of Lebanon; A. M. Smith, of Snyder.

5th District.—W. F. Bacon, of York; John Montgomery, of Franklin; R. P. Koons, of Cumberland.

6th District.—Crawford Irwin, of Blair; J. C. Stever, of Huntingdon; D. M. Crawford, of Juniata; ———— of Bedford; J. S. Troxell, of Cambria; H. M. Lichty, of Somerset; A. H. Harshberger, of Mifflin.

7th District.—J. T. Cass, of Indiana; ————, of Armstrong; Jas. B. Ewing, of Fayette; J. W. B. Kamerer, of Westmoreland.

8th District.—Samuel Ayers, of Allegheny; J. B. Donaldson, of Washington; W. S. Throckmorton, of Greene.

9th District.—S. D. Bell, of Butler; H. M. Shallenberger, of Beaver; J. M. Marston, of Mercer; J. E. Ritchy, of Venango; R. I. Wallace, of Clarion.

10th District.—W. B. Hazeltine, of Warren; A. Mulhaupt, of Elk; A. F. Balmer, of Jefferson; A. M. Straight, of McKean; David N. Dennis, of Erie; W. D. Hamaker, of Crawford.

11th District.—J. L. Henderson, of Clearfield; G. F. Harris, of Centre; G. F. Bell, of Lycoming; R. B. Watson, of Clinton; W. D. Vedder, of Tioga; ————, of Northumberland.

12th District.—P. C. Newbaker, of Montour; L. B. Kline, of Columbia; W. G. Weaver, of Luzerne.

13th District.—S. M. Woodburn, of Bradford; C. C. Halsey, of Susquehanna.

Delegates to American Medical Association for 1897.—J. J. Buchanan, of Allegheny Co.; W. B. Ulrich, of Delaware Co.; H. X. Bonbreak, of Franklin Co.; G. B. Dunmire, of Philadelphia Co.; W. E. Swiler, of Cumberland Co.; Wm. Nicholson, of Venango Co.; W. B. Lowman, of Cambria Co.; W. C. Simpson, of Beaver Co.; Arthur C. Wheeler, of Erie Co.; John W. Wright, of Erie Co.; W. S. Foster, of Allegheny Co.; H. G. McCormick, of Lycoming Co.; A. H. Halberstadt, of Schuylkill Co.; Robert G. Furst, of Clinton Co.; W. S. Wilson, of Mifflin Co.; Thomas Milliken, of Greene Co.; A. E. Snyder, of Susquehanna Co.; E. H. Coover, of Dauphin Co.; W. D. Tweedle, of Carbon Co.; J. F. Klinedinst, of York Co.; W. Murray Weidman, of Berks Co.; J. H. Wilson, of Beaver Co.; J. W. Groff, of Montgomery Co.; Alexander Craig, of Lancaster Co.; J. W. Morrow, of Forest Co.; Evan O. Kane, of McKean Co.; H. G. Chritzman, of Franklin Co.; C. L. Stevens, of Bradford Co.; G. G. Harman, of Huntingdon Co.; B. H. Detwiler, of Lycoming Co.; R. N. Short, of Cumberland Co.; Willis M. Baker, of Warren Co.; H. C. Devilbiss, of Franklin Co.; W. S. Brenholtz, of Lancaster Co.; W. R. Longshore, of Luzerne Co.; F. F. Davis, of Venango Co.; J. W. Sheets, of Northumberland Co.; J. R. Care, of Montgomery Co.; E. R. Gardner, of Susquehanna Co.; John Fay, of Blair Co.; C. M. Strickler, of Warren Co.; W. R. Palmer, of Elk Co.; Laura J. Dice, of

York Co. ; Ellen Brown, of Delaware Co. ; I. P. Klingensmith, of Indiana Co. ; D. H. Bergey, of Montgomery Co. ; John Montgomery, of Franklin Co.

Delegates to Pan American Medical Congress.—J. M. Anders, of Philadelphia ; Ernest LaPlace, of Philadelphia . W. F. Bacon, of York Co. ; R. W. Ramsey, of Franklin Co. ; A. M. Miller, of Lancaster Co. ; E. M. Corson, of Montgomery Co. ; F. F. Davis, of Venango Co.

Delegates to Maryland Medical Society.—C. C. Hummel, of Cumberland Co. ; W. Murray Weidman, of Berks Co.

The Committee suggests that the President and Secretary be empowered to issue credentials to any members who wish to be delegates to any State Society.

Dr. H. G. McCormick moved that we recommend that the time for holding our meeting in 1897 be changed to the first Tuesday in September, which motion was carried.

Pittsburgh was selected as the next place of meeting, and Dr. T. D. Davis, of Pittsburg, was named as the Chairman of the Committee on Arrangements.

C. L. Stevens,
Chairman.

H. C. Frantz,
F. H. Van Valzah,
Secretaries.

Dr. H. G. McCormick moved the adoption of the report as read. Dr. John B. Roberts objected, as the report offered an amendment to the By-Laws. Dr. McCormick spoke in favor of the proposed change in the time of meeting and Dr. Roberts opposed it. A proposition to suspend the By-Laws in that respect for the year 1897, was declared out of order by the President. A vote was taken on the proposition to change the time of meeting and it was decided in the negative. The Secretary was then directed to cast a ballot for the report of the Committee as amended.

On motion of Dr. McCormick the thanks of the Society were tendered to Governor Hastings for his addresss at the opening of the meeting, and a copy of the Address was requested for publication in the Transactions.

Dr. Israel Cleaver, of Berks Co., then read the Address on Obstetrics, after which the following papers were read : by Dr. F. S. Pearce, of Philadelphia, on "A Clinical Report on the Use of Testicular Fluid Injections ;" and by Dr. J. M. Anders,

of Philadelphia, on "Some Therapeutic Uses of Guaiacol." Dr. Carl Seiler made some remarks on the latter paper.

Dr. R. W. Stewart, of Allegheny Co., also read a paper on "The Technique of Supra-pubic Cystotomy," and Dr. Carl Seiler, of Philadelphia, one entitled "Remarks on the Subject of Perforation of the Nasal Septum."

On motion, the papers by Dr. L. H. Adler, of Philadelphia, on "Treatment of External Hemorrhoids," and by Dr. F. H. Murdoch, of Allegheny County, on "Gastro-Intestinal Auto-Intoxication," were read by title.

Dr. Evan O. Kane, of McKean Co., read a paper on "The Chief Predisposing Influence in the Production of Tuberculosis," which was discussed by Drs. L. F. Flick, W. H. Harrison, J. M. Anders, James Tyson, E. LaPlace, C. E. Solly, a guest from Colorado, and Dr. E. B. Borland.

Dr. Mary McC. Wenck, of Northumberland Co., read a paper on "The Hygiene of Pregnancy," which was discussed by Drs. Boyd, Elizabeth Kane, and G. E. Shoemaker.

Dr. W. H. Harrison, of Dauphin Co., read a paper on "The Pathology of the Blood of the Insane," which was discussed by Drs. Pearce and Tyson.

Dr. Anna M. Fullerton, of Philadelphia, read a paper on "Records of Work in the Woman's Hospital of Philadelphia," which was discussed by Drs. Massey, Noble and Wenck.

Dr. W. C. Hollopeter, of Philadelphia, read a paper on "Milk Filtration."

The Secretary read the following report from the Censors of the 8th District.

The Censors of the 8th District of Pennsylvania desire to report in regard to Dr. Wm. F. Barclay, of Pittsburg, that the action of the Allegheny County Medical Society is sustained in its expulsion of Dr. Barclay from membership.

Respectfully submitted,

SAMUEL AYERS,
JOHN B. DONALDSON,
W. S. THROCKMORTON,
Censors.

The Auditors reported that they had examined the accounts and vouchers of the Treasurer and found them correct.

Dr. H. G. McCormick offered the following:

Resolved, That in the absence of a quorum of the Medical Society of the State of Pennsylvania, at its Annual Meeting in May next, the Committee of Arrangements shall have power to call an adjourned meeting for the third Tuesday of September 1897, at Pittsburg.

After discussion by Drs. Flick and Roebuck, the motion was lost.

Dr. John Curwen, of Warren County, offered the following:

Resolved, That a Committee of five members of the Medical Society of the State of Pennsylvania be appointed to memorialize the Legislature in favor of the establishment of a hospital for the acute, convalescent, chronic and epileptic insane of the counties of Potter, Tioga, Clinton, Lycoming, Clearfield, Jefferson, Centre, Huntingdon, Blair, Cambria, Bedford, Somerset and Indiana.

After some remarks in opposition to the proposition, by Drs. G. B. Massey and H. S. McConnell, the resolution was adopted almost unanimously and the following Committee was appointed: Drs. John Curwen, of Warren County; S. S. Towler, of Butler County; H. G. McCormick, of Lycoming County; T. D. Davis, of Allegheny County; Jas. Fulton, Chester County.

The following amendments were offered by Dr. S. S. Towler and were laid over for one year:

Resolved, That so much of Article XII, Section 1, as relates to annual address be stricken out;

Further, That Article XV, Section 1, be stricken out;

That Section 2 be Section 1, and the word "twenty" be stricken out and the word "ten" be put in place thereof;

That Section 3 be Section 2 and the word "ten" in second line be stricken out and the word "five" be put in place thereof, and that the word "fifteen" in line four be omitted and the word "ten" be put in place thereof;

That Sections 4, 5, 6, 7, 8 be Sections 3, 4, 5, 6, 7.

F. LeMoyne,
Adolph Koenig,
S. S. Towler,
John Curwen,
Theo. P. Simpson,
} *Com. on Scientific Business.*

Dr. Adolph Koenig, of Allegheny County, called attention to the resolution obliging the Committee on Arrangements to prevent the exhibition of all preparations in conflict with the Code of Ethics. He said that this was also to have been printed on the program, but various articles of that kind were to be found in the Exhibition Hall. As Dr. Bishop, Chairman of the Committee, was not present to reply, the matter was allowed to wait.

Mr. J. A. Miller, representative of the Pennsylvania Pharmaceutical Society, presented an address on behalf of that body (see p. 33).

On motion of Dr. John Montgomery, of Franklin County, the following was adopted:

Whereas, This Society has heard of the continued severe illness of Dr. R. Lowry Sibbet, of Cumberland County, and recognizing the service he has so ably and cheerfully rendered this Society as Chairman of the Committee on Medical Legislation,

Resolved, That the Secretary be requested to communicate to Dr. Sibbet this action of our Society.

Dr. Adolph Koenig offered the following:

Whereas, A large number of surgeons and physicians are engaged in valuable and gratuitous service in the hospitals in the State of Pennsylvania, and

Whereas, Such surgeons and physicians are conspicuously familiar with the interests and requirements of the hospitals with which they are connected:

Resolved, That it is the sentiment of this Society that every hospital having an unsalaried staff should have in its Board of Managers a liberal representation from its surgical and medical staff.

This was adopted.

Dr. Koenig also offered the following:

Resolved, That this Society disapproves of the action of the Committee of Arrangements, as to the exhibit of all articles coming under the ban of the resolution, referring to non-ethical medicines, as unanimously adopted last year.

Dr. H. L. Orth, of Dauphin County, moved, as an amendment to the resolution, that a committee of three be appointed for the purpose of investigating the matter, the committee to report on Thursday.

A motion by Dr. Massey to lay the whole matter on the table was lost, and the motion as amended by Dr. Orth was then adopted. The following Committee was appointed: Drs. LeMoyne, McConnell and Livingston.

The Society then adjourned until Thursday morning.

Thursday Morning, Third Day.

The President called the Society to order at 9.30 A. M.

By unanimous consent, the paper of Dr. G. E. Shoemaker was substituted for that of Dr. R. L. Sibbet, who was absent by reason of illness.

Dr. Shoemaker read his paper on "The Fibroid Uterus—When and How to Operate," which was discussed by Drs. Noble and Massey, and Dr. Shoemaker replied.

Dr. LeMoyne then read the following report of the special Committee on Medical Exhibits:

In accordance with your instructions, we have inspected the exhibits of medicinal preparations offered at this session.

While there are some proprietary preparations which should have been excluded, the Committee has exercised the discretion to reject applications for space for other objectionable material, for which they are to be commended.

(Signed) F. LeMoyne,
H. S. McConnell,
T. M. Livingston.

On motion the report was accepted and filed, by a unanimous vote, after an explanation by Dr. C. A. Rahter, who had charge of the exhibit, and remarks by Drs. LeMoyne, Towler, Borland, Bishop and Rosenthal.

Dr. Walter H. Parcels, of Mifflin County, read a paper on "Obscure Traumatic Lesions of the Encephalon," and Dr. J. Walter Park, of Dauphin County, one on "The Medico-Legal Aspect of Eye and Ear Cases," which was discussed by Dr. L. J. Lautenbach, of Philadelphia.

Dr. Edwin Rosenthal, of Philadelphia, read a paper on "The Reduction of the Period of Intubation by Serum Treatment of Laryngeal Diphtheria." Upon a request by Dr. Noble, Dr. W. M. Welch, of Philadelphia, gave his experience in the matter.

Further discussion was had by Drs. T. D. Davis and W. B. Ulrich.

Vice-President A. P. Hull, of Lycoming County, occupied the chair.

Papers were read by Dr. W. M. Beach, of Allegheny, on "Special Forms of Rectal Fistula," and by Dr. G. Betton Massey, of Philadelphia, on "What the General Practitioner can Accomplish with Electricity in the Diseases of Women," the latter being discussed by Dr. I. Cleaver.

Dr. H. K. Regar, of Philadelphia, read a paper on "The Nervous Sequelæ of Influenza," concerning which some remarks were made by Dr. L. J. Lautenbach.

Dr. Henry Beates, Jr., of Philadelphia, read a paper on "The Clinical Study of Digitin."

On motion of Dr. Towler, the paper of Dr. Daland was made the first order for the afternoon session.

Dr. S. S. Towler read the report of the Committee appointed the year before to communicate with editors and publishers of medical journals in the United States relative to unethical advertisements. (See page 34.)

On motion the report was accepted.

Dr. W. B. Ulrich, of Delaware County, offered the following on the death of Dr. Hiram Corson:

Whereas, In the dispensation of Providence, our friend, fellow-member and ex-President of this Society, Dr. Hiram Corson has been removed by death, and

Whereas, During his life he was a man of strictest integrity and the highest professional standing, one whose connection with this Society was an honor and benefit to it; therefore be it

Resolved, That we hereby record our testimony to his worth, our sense of the loss which we have sustained in his death, and our hope that his example may long be felt as an elevating and purifying influence by his professional brethren.

On motion of Dr. Bishop, it was agreed that the resolution should be amended to include the other deceased ex-Presidents, and that a memorial page be prepared for the three deceased ex-Presidents in the next volume of Transactions.

On motion of Dr. John H. Packard, of Philadelphia, it was resolved that a committee of five members be appointed by the

President, at his leisure, to consider the feasibility and expediency of a change in the methods of acquiring and holding membership in this Society, looking to an increase in the efficiency and influence of the body as a whole.

Dr. G. Betton Massey, of Philadelphia, offered the following:

Whereas, It is the settled conviction of the medical profession that institutions for the treatment of the insane should be designed for the application of the most approved methods of medical treatment rather than mere asylums, and

Whereas, The medical problems involved in the care and treatment of the insane are largely different in acute and chronic cases, the former requiring hospital care and detention and the latter medical rather than hospital treatment, including the hygienic and curative influences of fresh air, amusement and employment, and

Whereas, The present State hospitals of Pennsylvania were designed for the acute insane and are now improperly overcrowded with chronic cases to the detriment of both classes; be it

Resolved, That the Medical Society of the State of Pennsylvania hereby expresses its conviction that the present overcrowded condition of the State hospitals should be relieved by the transfer of chronic cases to institutions of simpler construction, and better adapted to the out-door treatment and employment of chronic cases.

On motion of Dr. Bishop, it was referred to the Committee on Legislation.

Dr. Israel Cleaver, of Berks County, offered the following:

Whereas, Various synthetic preparations cost, by reason of monopolization, about 60 per cent more in the United States than in the neighboring province of Canada, as the following comparison illlustrates, to wit:

Antipyrin in Canada,	$0.50 ;	United States,	$1.25 per oz.
Phenacetin in Canada,	.26 ;	United States,	1.00 per oz.
Sulphonal in Canada,	.70 ;	United States,	1.40 per oz.
Aristol in Canada,	1.00 ;	United States,	1.80 per oz.
Europhen in Canada,	.90;	United States,	1.80 per oz.

Therefore, Resolved, That the delegates of the Berks County Medical Society to the State Medical Society, convening May 19, 1896, at Harrisburg, Pa., are hereby instructed to present this fact to said State Medical Society, and urge that body to adopt measures whereby this abuse may be corrected, and the profession, and others in the United States, be relieved of this unjust discrimination.

Attest, JAMES W. KEISER, M. D.,
Recording Sec'y.

On motion of Dr. T. D. Davis, of Allegheny County, this was referred to the Committee on Legislation.

On motion of Dr. H. S. McConnell, of Beaver County, it was agreed to strike out the rule adopted at the session of 1895, as follows:

The Committee of Arrangements of each annual session shall grant the privilege of exhibition under the auspices of this Society only to such pharmaceutical articles as are recognized by the United States Pharmacopœia, or are not protected by trade-mark, secrecy of preparation, or other exclusive proprietorship. This shall be printed on each annual program.

On motion of Dr. McConnell, the Committee of Arrangements was given permission to use its own discretion relative to medical exhibits.

Dr. L. J. Lautenbach, of Philadelphia, offered the following:

Resolved, That the accompanying advertisement be referred to the Judicial Council, with the request that it express the sense of the Medical Society of the State of Pennsylvania, as to its ethical nature:

"(Reprint from *Public Ledger*, Philadelphia, May 2, 1896.)

Jefferson Medical College Hospital, 1020 Sansom Street, Philadelphia.

The under-named physicians and surgeons attend at the Hospital daily, except Sunday:

Physicians.—H. A. Hare, M. D.; J. C. Wilson, M. D.

Surgeons.—John H. Brinton, M. D.; W. W. Keen, M. D.; W. Joseph Hearn, M. D.; James M. Barton, M. D.

Gynæcologists.—E. E. Montgomery, M. D.; John C. DaCosta, M. D.

Henry W. Stelwagon, M. D., Clinical Professor of Dermatology; H. Augustus Wilson, M. D., Clinical Professor of Orthopedic Surgery; Edwin E. Graham, M. D., Clinical Professor of Diseases of Children; F. X. Dercum, M. D., Clinical Professor of Diseases of Nervous System; G. E. de Schweinitz, M. D., Clinical Professor of Ophthalmology; Orville Horwitz, M. D., Clinical Professor of Genito-Urinary Diseases; S. MacCuen Smith, M. D., Clinical Professor of Otology; Howard F. Hansell, M. D., Clinical Professor of Ophthalmology.

Persons seriously injured by accident within the State are always admitted if brought at once to the Hospital, and all accident cases receive prompt attention.

Out-patient Department.—Physicians and surgeons are in attendance in the various out-patient departments daily, except Sunday, to receive patients for admission or treatment. All the departments are open at 12 noon, except the Eye Department, which is open at 2 P. M.

The Jefferson Maternity Hospital is at 224 S. 7th street.

J. C. Wilson, *Medical Director.*
Dr. E. P. Davis, *Obstetrician.*"

Dr. W. T. Bishop, of Dauphin County, objected, as he said that this was a matter which belonged entirely to the Philadelphia County Medical Society, and not to the State Society.

After some discussion, Dr. W. J. Middleton, of Dauphin County, offered an amendment to Dr. Lautenbach's motion providing for the reference of the matter to a committee of three for investigation.

Dr. H. S. McConnell, of Beaver County, raised the point of order that the question was one for the consideration of the censors of the district in which the matter had occurred.

The President ruled that it was competent to the Society to refer it to the Judicial Council.

Dr. Bishop moved that the whole matter be laid on the table. This was decided in the negative, after which Dr. Middleton's amendment to Dr. Lautenbach's motion was approved, and the motion, as thus amended, was adopted by a unanimous vote.

The President appointed the following committee to investigate the matter: Drs. W. J. Middleton, of Dauphin County; W. Murray Weidman, of Bucks County, and H. S. McConnell, of Beaver County.

An intermission was then taken until 2 P. M.

Afternoon session.

The Society was called to order at 2 P. M. by the President.

Dr. Judson Daland, of Philadelphia, read a paper entitled "Certain Forms of Malarial Parasites, Illustrated by Lantern Slides."

At the conclusion of Dr. Daland's paper, Dr. Henry Beates, Jr., of Philadelphia, remarked that Dr. Daland had been dismissed from the staff of the Philadelphia Hospital on account of the investigations he had made, which had led to the discovery of the facts announced in this paper.

Dr. L. J. Lautenbach, of Philadelphia, read a paper on "Phono- and Pneumo-massage for Suppurative Disease Deafness," and Dr. E. W. Holmes, of Philadelphia, one on "Cerebral Concussion and Compression."

Dr. E. Laplace made a few remarks on the latter paper.

Dr. Ernest Laplace, of Philadelphia, read a paper entitled "Surgical Treatment of Insanity, with Report of Cases." On

motion, his time was unanimously extended. The paper was discussed by Dr. Holmes.

On motion, the rules were unanimously suspended in order to hear the report of the special committee on the matter of the publication of the Jefferson College Hospital.

The Committee reported as follows:

Your Committee would report that we have learned that the publication referred to has been published without the knowledge of the medical gentlemen whose names appear, and it is the belief of the Committee that the matter having now come to their notice, will be so arranged by them as to fully comply with the Code of Ethics. Your Committee also deprecate the action of those persons who, by having copies of the advertisement printed and distributed in the hall of this Society, have made this action appear to have more of the interest of the individual than the welfare of the Society.

(Signed) Wm. J. Middleton,
W. Murray Weidman,
H. S. McConnell.

Dr. Lautenbach objected to the report. He said that the Committee should be required to confine its report to the matter presented to it. Dr. McConnell replied for the Committee that it objected not to the matter, but to the method of this attack. The report was adopted almost unanimously.

Dr. W. H. Pancoast, of Philadelphia, continued the discussion on the paper of Dr. Laplace.

These papers were then read: By Dr. Aloysius O. J. Kelly, of Philadelphia, on "The Significance of Murmurs in the Diagnosis of Valvular Diseases of the Heart;" by Dr. W. T. English, of Allegheny County, on "The Abuse of Digitalis," and by Dr. Wendell Reber, of Schuylkill County, on "The Correlation Between the Iris and the Patellar Tendon Reflex."

The President then thanked the Society for the kindness and courtesy that had been accorded him, and appointed Drs. J. G. McCandless, of Allegheny, and T. C. Detwiler, Lancaster, to conduct the President-elect to the platform. The Committee having escorted Dr. E. E. Montgomery to the platform, he took the chair and thanked the members for the honor they had conferred upon him.

Dr. B. Alex. Randall, of Philadelphia, read a paper entitled "Simple and Efficient Treatment of Chronic Catarrhal Deafness," which was discussed by Dr. Lautenbach.

Dr. W. B. Atkinson, of Philadelphia, moved that all papers which had not been read by title be referred to the Committee on Publication. This was opposed by Dr. Bishop as offering a premium for persons to have their names placed on the program and not come to the sessions to read the papers.

Dr. O. B. Borland, of Allegheny County, moved to amend the motion, so that it should read: "all papers omitted for want of time." The amendment was voted down.

The original motion was then adopted unanimously.

On motion of Dr. McConnell, the Committee of Arrangements for the next meeting was authorized to employ a stenographer.

Dr. T. D. Davis, of Allegheny County, offered the following, which was adopted by a rising vote:

Resolved, That our sincere thanks are due to the Dauphin County Medical Society for their royal entertainment, their convenient arrangements for this meeting, and all the generous and thoughtful courtesies extended to the Medical Society of the State of Pennsylvania in its 46th Annual Session.

To His Excellency, Governor Daniel H. Hastings and his charming wife, for their most elegant and cordial reception tendered this Society; also to the Governor for his clear, forcible and high appreciation of our noble profession as expressed in his eloquent address of welcome.

To the management of the Central Insane Asylum for their delightful entertainments and generous excursion to their buildings and beautiful grounds.

To the management and ladies of the Harrisburg Hospital, for their hospitality extended to us in their fine institution.

On motion of Dr. W. H. Pancoast, of Philadelphia, it was resolved that the Board of Trustees and Judicial Council shall consider and report at the next meeting at Pittsburg, the practicability of making Pittsburg, Harrisburg or Philadelphia a place of meeting every second or third year, as a general central place of meeting, where an establishment sufficiently commodious may be obtained to found a museum and library, in

which the State Society may preserve preparations and commence forming a State Medical Library.

Dr. Jas. Fulton, of Chester County, moved that the program be forwarded to the officers and authors of papers as soon as it was prepared. It was explained that this had already been provided for.

On motion of Dr. LeMoyne it was resolved that "we hereby express our appreciation of the ability, courtesy and impartiality of the retiring President, Dr. William S. Foster."

The report of the Secretary on the History of the Society as directed at the last session of the Society was called for, and the Secretary announced that it would be printed with the Transactions, as he would not ask to detain the Society by reading it.

The State Board of Medical Examiners asked permission to have their report for the past year, with the list of those licensed, printed in the Transactions. On motion, this was granted.

The President announced the following appointments:

Address in Medicine, Dr. W. E. Hughes, Philadelphia.
Surgery, Dr. J. Chalmers DaCosta, Philadelphia.
Obstetrics, Dr. J. M. Baldy, Philadelphia.
Hygiene, Dr. A. P. Brubaker, Philadelphia.
Mental Disorders, Dr. Theodore Diller, Pittsburg.
Ophthalmology, Dr. Joseph E. Willetts, Pittsburg

Committee on Pharmacy: Drs. T. P. Simpson, Beaver County; Jas. Fulton, of Chester County; E. Q. Thornton, of Philadelphia; J. W. F. Moore, of Butler County; E. B. Borland, of Allegheny County.

The Secretary read letters from members of Congress in reply to the resolution on Vivisection in the District of Columbia, agreeing to support the action of the Society and oppose the proposed Bill.

The Society then adjourned to meet in Pittsburg on the third Tuesday in May, 1897.

WILLIAM B. ATKINSON,
Secretary.

REPORT OF THE DELEGATES FROM THE PENNSYLVANIA PHARMACEUTICAL ASSOCIATION.

To the Medical Society of the State of Pennsylvania :

GENTLEMEN:—Very early in the present year, the delegates from the Pennsylvania Pharmaceutical Association to the State Medical Society, received a copy of the resolutions adopted by your Society, at its last annual meeting, asking us to send to the Medical Society the constituents and formulæ of the *newer* pharmaceutical preparations of the National Formulary, in order that the same might be published in the Transactions of the Society; it was also requested of us to give the chemical composition and pharmaceutical names of such preparations as were identical with or similar to preparations bearing a trade-mark name.

At the time we received the resolutions, the National Formulary was undergoing revision, and to secure *newer* formulæ, as requested, we were compelled to wait for the publication of the new edition, which, contrary to expectations, was not issued until about the first of this month.

The next question arose as to how far we could transmit to you data concerning "the constituents and formulæ of the National Formulary preparations" without violating the copyright laws (the publication being copyrighted by the American Pharmaceutical Association). We wrote to the Chairman of the National Formulary Committee of the Association (Mr. C. Lewis Diehl, of Louisville, Ky.), asking permission to prepare an "Epitome" for your Society, giving the names, constituents and dose of the preparations with, possibly, a therapeutical index.

We attach a copy of the reply received from Mr. Diehl, as follows :

LOUISVILLE, KY., May 14, 1896.

Mr. J. W. England, Chairman of Delegation, etc.:

DEAR SIR:—In reply to yours of the 10th inst., I beg to say that while I have no authority in the matter you inquire about, I have no doubt that the Council of the American Pharmaceutical Association will gladly give the Pennsylvania Pharmaceutical Association the privilege to prepare an Epitome of the National Formulary for the purpose you mention. I shall take pleasure to introduce a resolution in the Council that authority may be given to State Pharmaceutical Associations that may apply for the privilege to issue such Epitome. Will you kindly make application for the privilege to the Council, Mr. Geo. W. Kennedy, Pottsville, Pa., Secretary, and I shall communicate with Mr. Kennedy at once, so that he may act understandingly in the matter.

Very sincerely yours,

C. LEWIS DIEHL,
Chairman Com. Nat. Form.

We would state that we have made application for the permission above referred to.

Now, as to the request made for "the chemical composition and pharmaceutical names of such preparations as are identical with or similar to preparations bearing a trade-mark name," this is a request to which—under the wholly unjust copyright laws of this country—we cannot comply without serious danger of numerous libel suits by interested manufacturers of pharmaceutical preparations, the names of which have been copyrighted. Further, the *proving* of the identity of different makes of pharmaceutical preparations, especially those containing the proximate principle of a *number* of vegetable drugs, is a very difficult matter; and, in the opinion of many, it is of comparatively little value if accomplished. What the American Pharmaceutical Association has sought to do in preparing the National Formulary, has been, not so much to present formulæ for making products that shall be identical with or similar to certain *proprietary* preparations, as it has been to present *known* formulæ for preparations of positive therapeutical worth and pharmaceutical elegance, leaving to the physician his choice of remedies from among the 454 combinations presented.

As to the resolution passed by your Society "that the Committee on Pharmacy be requested to report to the Pennsylvania Pharmaceutical Association the *names* of such proprietary remedies as may be furnished it by the County Medical Societies for information as to whether there is in the National Formulary a combination of similar constituents," we would state that we have received no request for such information.

We would be pleased—if the Council of the American Pharmaceutical Association grants our request—to prepare for publication in your next Transactions an Epitome of the National Formulary. If the work be desired, we venture to suggest that your Society appoint a committee to prepare a therapeutical index of the preparations described. In addition to publishing an Epitome in your Transactions, it might be well to issue a reprint, in a vest-pocket book-form, for daily reference by physicians.

With the kindliest greetings and warmest well-wishes, we are

Yours respectfully,

JOSEPH W. ENGLAND,
S. W. HEINITSH,
J. A. MILLER. } *Delegates.*

REPORT OF THE COMMITTEE ON UNETHICAL ADVERTISEMENTS.

In obedience to the resolution appointing the Committee, a circular was prepared stating the action of the American Medical Association Journal in excluding unethical advertisements, and requesting them to

adopt a similar rule which was mailed to all known medical editors and publishers in the United States and also to a number of the more prominent journals in Great Britain, numbering in all about 700.

The expense of postage was met by envelopes furnished with stamps by the Secretary of the Society. *The Philadelphia Polyclinic*, *The Pittsburg Medical Review*, and *The Occidental Medical Journal*, gave kind editorial notice. Many journals printed the circular in full. The moral effect of this circular was, we think, good.

CIRCULAR.

To the Editor and Publisher:—As a committee appointed for that purpose, we desire respectfully to call your attention to the following extracts from minutes showing the action taken by the Trustees of the AMERICAN MEDICAL ASSOCIATION and by the MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, respectively.

BALTIMORE, MD., May, 1895.

"Report of the Trustees of the American Medical Association:
"During the year no advertisements of secret remedies have been "accepted that were not accompanied by a formula; but to still "further comply with what appears to be the desire of a large num- "ber of those interested in the highest success of the Journal, the "Editor, with the termination of the present contracts, has been in- "structed *to accept no advertisements of medical preparations the pro- "prietors of which do not give a formula containing the official or chemic "name and quantity of each composing ingredient to be inserted as a part "of the advertisement.*"

CHAMBERSBURG, PA., May, 1895.

"*Resolved*, That the Medical Society of the State of Pennsylvania "congratulates the American Medical Association upon the decision "of the Trustees to exclude unethical advertisements from the Jour- "nal of the Association."
"*Resolved*, That a Committee of three be appointed to communicate "with the editors and publishers of medical journals in the United "States, calling their attention to this action of the American Medi- "cal Association, and requesting them to accede to the wishes of the "profession by adopting a similar rule."

Allow us also fraternally to state: That we believe that the best interests of medical men are coincident with scientific accuracy so far as this can be obtained: That the practitioner of medicine should therefore know in all cases, the character of the drug and the formula of the preparation, or chemic compound that he prescribes: That the use of a secret preparation or nostrum is undeniably unscientific, and cannot be intelligently defended: That, hence the advertisement of such preparations by scien-

tific journals is out of place; its effect being to promote quackery and discourage scientific prescribing: That we believe the exclusion of such advertisements will aid the circulation of medical journals and give them a dignity and character not obtainable without such exclusion: That the hearty manner in which the action of the Trustees of the American Medical Association and that of the Medical Society of the State of Pennsylvania was received, shows the very cordial endorsement by the Profession of the policy here recommended. We, therefore, most earnestly ask your careful attention to this subject, hoping, and, in behalf of this Society, requesting, that you will adopt a similar rule to that of the Trustees of the American Medical Association.

Very Respectfully Yours,

(Signed) S. S. Towler, M. D.,
J. J. Buchanan, M. D.,
C. H. Thomas, M. D.

ADDRESS OF THE PRESIDENT.

THE MUTUAL RELATIONS OF THE PROFESSION AND THE STATE.

By WM. S. FOSTER, M. D.

OF PITTSBURG.

Medical men as individuals and the profession as a body have interests which more or less constantly bring them into contact with the State as an administrative body. We meet problems whose solving cannot be accomplished without State action, and that action is likely to be delayed, mistaken or thwarted without our professional knowledge, advice and assistance.

There are, then, certain matters in regard to which our profession as a whole, and we as individuals, are in honor bound to give the community, through the organization of the State, our co-operation and our best aid, if we are to fulfill all the demands of good citizenship. And there are other matters, in regard to which the State owes our profession a debt of both duty and gratitude, which should be a debt of honor. To a brief consideration of both sides of the mutual relationship thus existing, it has seemed to me not unprofitable to devote our attention at this time.

It is a most proper thing that a body which represents the organized strength of the medical profession in this great commonwealth should set itself seriously and gravely to the task which is involved in the proper consideration of this subject. This Society is the fighting unit which represents the character, the dignity, the rights and privileges of nearly 8000 practicing physicians and surgeons within the limits of Pennsylvania; but, in addition, we hold in our hands, and we safeguard by our efforts, those interests that are superior to all personal consideration, namely, the life and happiness, the

physical welfare, and much of the moral prosperity of a population which to-day approximates 6,000,000 souls. With such interests confided to our care, it is eminently fitting that we ask ourselves gravely how we may meet the problems of state medicine, pressing for solution now as they have never done before; and it is fitting that we answer seriously, faithfully and bravely after mature consideration.

Our duty to the State concerns us:

As citizens,

As doctors individually,

As an organized profession.

A man's value to the State as a political organization is enhanced by the intelligence of the man and by the integrity and activity with which that intelligence is employed in matters affecting the welfare of the State.

If you accept this statement as I do, it then follows that the physician who willingly, earnestly and actively fulfills the ordinary demands of citizenship becomes the State's most valuable citizen. There then opens up to him a larger field of usefulness, as a citizen merely, than to other men. His education primarily, and his manner of life secondarily, make him a factor in the community of more actual and more relative value than the ordinary man.

With this added weight in the community comes the plain duty to exercise one's political privileges to the utmost, from reasons that are at once personal, professional and political. To put it plainly: a doctor ought to take an interest in politics, local, state and national. As a citizen, he should not only vote regularly, but he should go to the primaries and to caucuses. The time and place to make his influence felt for good in the political community is at the time and place that candidates are chosen; when their personal character is weighed in the balance, and when their friendship or antagonism for measures of proposed legislation will influence the choice of candidates. In other words, if a doctor wants to make his knowledge of use to the community as a whole, if he wants his ideals to be framed into laws and made a part of the record of his State's progress, he must bear his part as a citizen in the

simplest and most fundamental processes that contribute to the making of laws, or the choosing of those who answer yea and nay in the law-making body. It is not degrading to take an honest part in politics, but it is degrading to let dishonesty trample upon your rights. It is not degrading to strive to place good laws upon the statute books, but it is degrading to permit the enactment of bad laws, because you are either too bashful, too busy or too indifferent to demand the enactment of good laws.

But we owe the State other duties than those which she may with equal propriety demand from all other men of education. Our professional qualifications entail upon us certain special duties to the State just as certainly as they entitle us to certain special exemptions. It has been recognized by the law that the peculiar requirements of our calling are such as to justify our exemption from service as jurors. We are indebted to the community for this courtesy, small though it is. As medical men we should endeavor to give an impress to the laws that are made. There is much of recent medical discovery that affects the welfare of the people and that may be properly embodied in our laws, and we as physicians are derelict in duty if we fail to impress such matters upon our legislators. The individual action of each physician means much in this regard. If upon subjects affecting the public health, each doctor in this State would seriously and earnestly urge his knowledge of real facts upon some legislator of his acquaintance, it would not be long until really modern medicine would succeed in having placed upon our statute books legislation of real value to the people.

The care of the insane and the administration of hospitals of all kinds have too long been under the supervision of non-professional men. It is humiliating to note the appointment of pushing politicians, third rate lawyers, and professional charity mongers, to those positions of honor and responsibility in connection with the administration of hospitals and other charitable institutions.

The actual work of these institutions is in too many cases performed without renumeration by members of the medical

profession, and their familiarity with the needs of the institutions would properly enable them to demand recognition in the administrative, honorary renumerative appointments. But with scant courtesy medical men are usually dismissed from consideration when these matters are considered, with the too frequent false assertion that they are "not business-like" in their methods. If the appointments as made showed any real consideration for this argument, we might at least admit its sincerity, but the character of many of the appointees to those responsible offices is such as to absolutely negative such a supposition.

In other lines we owe service to the State, and we should at least proffer such service. How often have we felt that proper medical legislation might have been secured and viscious medical legislation prevented had the medical profession as capable and as large a representation in our legislative halls as that of the legal profession.

There are certainly enough physicians in this State who have, at the same time, a good professional standing and sufficient political eminence to enable this Society at all times to have from ten to twenty of its members in the State Legislature. They could not fail to influence legislation in a desirable manner and their service would be creditable alike to them as citizens, to us as a profession, and to our loved Commonwealth.

As an organization, there is much for this Society to do for the State, and in doing for the State to advance at once its own honor and the welfare of every citizen, however humble.

The re-codification of our laws relating to public health, especially as bearing upon such subjects as correct collection of vital statistics, the maintenance of the purity of our streams, the proper reporting and quarantining of contagious diseases, and the establishment and enforcement of regulations for the limitation of disease; these are propositions which it should be our privilege and our high duty to formulate and press to enactment at as early a date as possible.

There is ample reason why this is the paramount duty facing us to-day. Pennsylvania's three largest cities have for

years maintained an unenviable reputation for typhoid fever prevalence. That prevalence is not simply unnecessary. In the light of modern sanitary science, it is a crime—a crime as great, as cruel and as shameful as the slaughter of the innocents in sacred history. A crime which the united voices of our profession must denounce and the awakened conscience of the Commonwealth bid to cease.

When the water supplies of the State have been purified, it is probable that the typhoid fever mortality of this State will not range much higher than that of smallpox, and there may yet arise a generation of physicians to whom the one disease will be as great a curiosity as the other.

And here our duty to the State and to our fellow-citizens and the State's duty to us, both as a profession and as citizens, seem to intermingle, so that they can with difficulty be distinguished. We owe it as a duty to the State to elaborate a plan of action. The State owes it as a duty to us to accept that plan. We both must enforce it on behalf of that ignorant, helpless humanity whose cry arises to heaven and whose unnecessary sacrifice to an unnecessary disease must cease.

If our united voices at this time express our unanimous demand for energetic action upon these matters, and if we each and all follow up that demand by personal persistent interest and argument during the coming year, the next legislature will be forced to give to our State Board of Health ample authority and a liberal appropriation for this work, and within a decade we shall behold its practical consummation proven by an annual typhoid death rate not greater than ten per cent of the present one.

And now, from these necessarily brief thoughts upon our duties to the State, let us turn to the consideration of the duties of the State to the medical profession. The State owes us, first, a debt of gratitude. We have been over-modest in asserting this claim, yet there is no profession that has given so much to and received so little from the State. From his earliest most energetic student days, through the long and arduous struggle for professional recognition, in the culmination of a finally successful career, and on into a tottering old age,

the physician's life is one of constant self-sacrifice. There is made upon him a never ceasing call for gratuitous service which is unlike that made upon a member of any other profession, trade or business. His time, his advice, his strength, his medicine case and his surgical satchel are ever held by the populace as a free gift. No other man gives so much and receives so little. And I say this, not to disparage the nobility of true charity, nor to underrate the necessity for it, but to condemn that selfishness which demands as charity what it neither needs nor deserves as such. It is not simply the abuse of our freely rendered services in dispensary work, but the added imposition of free service in hospitals, to many who can well afford to pay the demand by City, County and State for gratuitious service in positions of professional responsibility, and reluctant recognition by great corporations of the equality of our service with that of lawyers, engineers and business men. We are ourselves largely responsible for the low esteem in which these organized bodies hold our services, and for the grudging pecuniary recognition they accord us. We have competed too earnestly for their appointments and have practically underbid each other in our anxiety for personal recognition. And the natural result is seen in the humiliating comparison of the positions our leading physicians and surgeons hold with lawyers and other professional men in official positions of responsibility.

It needs no long or searching inquiry to arrive at the underlying cause of this humiliating comparison. If the medical profession of Pennsylvania, in common with that of all other states of this Union, were not over-crowded, the unnecessary and unprofessional competition for official appointments would be so lessened that we could afford to demand proper recognition and proper renumeration for our professional services.

Comparisons are well known to be odious, yet they are often instructive. Notwithstanding the undoubted honor of the position, no attorney would accept an appointment to the Supreme Court Bench if no salary was given. Necessary to the public as are the services of a prosecuting attorney, what en-

terprising young man would give his legal services in such a position gratuitously? Nor does any attorney surrender the legal claim to his fee for conducting the defense of poor clients assigned him by the courts.

We have Boards of Charities whose business it is to investigate charitable institutions, and in some instances to disburse the moneys of the State and of the separate counties. Has anyone ever known of them refusing to accept their mileage? Or has the State ever failed to provide for its payment?

When a sanitary investigation is to be made, the attorney gets his fee for drawing up the papers; the engineer is paid for his expert services; the witnesses are paid for their time in court; the doctor alone must give his time, his services, and his advice free.

In a word, the State is always willing to pay everyone except the doctor; *he* must always give the State something for nothing and be thankful that his ears are not cuffed in return for his voluntary service.

Are we not ourselves to blame for this condition of affairs? Have we not fallen over each other in offering the State our services gratis? Have we not cut each other's throats in our anxiety to secure "honorable" appointments, while we have forgotten to insist that honest service should be honestly paid for?

Have we not made entrance into our professional ranks so easy that it has tempted the incapable and the small-spirited, and at the same time deterred many who put the highest estimate upon themselves and their services? I do not answer these questions, but I ask them in seriousness, so that you and I and all of us may ponder them in our hearts, and if we do not answer them at this time in plain words, the deeds of the future may speak with more definiteness and more effect than mere words.

Will the State ever treat our profession better than it has done in the past? To this we may safely answer yes. Our profession is year by year asserting itself, its rights, its privileges, and its dignity as it never did before. The State cannot fail to recognize such rights and privileges, when asserted with becoming manner and dignified statement.

When our united profession, by its unanimous demand, compels the State to raise the standards of medical education, to increase the requirements for medical practice, both of which the State has recently taken cognizance of, to provide for its public health interests with the farseeing liberality that befits a splendid, civilized commonwealth, rather than the myopic impecuniousness of a frontier village; when our tenacity of purpose and sincerity of belief have wrung from ignorant or unwilling legislatures practical recognition of the equality of the medical with other learned professions, this Society will be in a position to better advance the interests of humanity than ever before. We are standing on the threshhold of a future whose possibilities are limitless, whose opportunities for doing good are "boundless." It is our heritage. Let us enter in and possess it.

ADDRESS IN MENTAL DISORDERS.

By CHARLES M. FRANKLIN, M. D.,

OF LANCASTER.

Man's individuality is but the exponent of his environment, consequently he cannot be studied from the standpoint of his personality but in conjunction with the society with which he is surrounded, the position he has inherited or has attained in those surroundings and the conditions that prevail as to his location, occupation and education. If there were a standard by which all men of all times and all nations could be judged alike, the subject of sanity would become an easy matter of mere comparison. It seems impossible, however, to escape the conclusion that the progressive peoples of the nations of to-day have everywhere the same distinctive features. Energetic, vigorous, virile life amongst them is maintained at the highest pitch of which nature is capable, the greatest freedom and fairest rivalry for the individual, but also the sternest conflict, the greatest friction and severest stress exist. It may appear strange, but it is nevertheless true, that if each of us were allowed by the conditions of life to follow his own inclinations, the average of one generation would have no tendency to rise beyond the average of the preceding one, but distinctly the reverse.

Progress is always the result of selection and rejection, no two individuals of one generation are alike in all respects. Some are slightly above the average and others are below it, and it is only when conditions prevail which are favorable to a preponderating reproduction of the former that advance in any direction becomes possible. Mankind has ever been looking forward to results better than have yet been known, and putting forth efforts to attain them. Each step gained opens

up in its turn new vistas, and encourages fresh efforts. Whether we view the life of a single individual from infancy to old age or the life of a race from the lowest barbarism to the highest civilization the record is the same. Steadily does human activity flow on, uninterrupted by any gloomy outlook, which would tend to physical indolence and mental and moral stagnation. Instead of this, the stream of hopeful effort gains new force and vigor from the numerous rills of new desires and fresh hopes, which are created by advancing intelligence, and swell the current of human energy. It is a most patent fact, that some individuals have over-stepped the bounds of prudence and have thereby injured their health by this personal effort to raise the average of human excellence, and they become thereby a part of the subject of this paper. Olive Shriner, in her "Story of an African Farm," says very truly: "You never shed a tear, or create a beautiful image, or quiver with emotion, but you pay for it at the practical calculating end of your nature. You have just so much force, when the one channel runs over the other runs dry."

Now, we feel that whilst many individuals have failed or over-reached the mark, yet the general result has been an improvement in the conditions which exist at the close of the nineteenth century. The characteristic feature of our times, which there is no gainsaying, is the humanitarian tendency. Never in human history have the minds of men been moved with nobler or more generous ideas towards each other, and the whole tendency of our civilization has been, and continues to be, to develop this disposition.

The advance in the care of the insane has been *para passu* with the socialistic evolution of modern society. It must be remembered that we have to compare the present condition of the mass of the population, not with their state under some ideal organization of society, but with their actual condition in the past.

Reports from all the hospitals for the insane in the land show a rapid progression of every line of work. *First:* The advance in hospital construction, assuring the greatest amount of comfort and advantage in custodial care with the happiest

means of classification. *Second:* The increase in the medical service, many institutions having latterly added departments of Pathology, Gynecology, and Ophthalmology. *Third:* The organization of schools of nursing, with a vast improvement in the character and intelligence of the attendants upon the insane. *Fourth:* The erection in this State of a hospital for the chronic insane. And we hope soon to be able to add a separate institution for the criminal insane. All these conditions have been a gradual growth from the crude methods which obtained at the beginning of the century, and are in harmony with, and a sequence of the general social evolution. The loss of self, the sacrifice of the individual for the general good, has been its active feature. Benjamin Kidd ascribes the motive force of our great social transformation to the "immense fund of altruistic feeling with which our Western societies have been equipped." It is this element in modern human character that has brought about such humanitarian methods in the care of the insane.

Great strides have been made in the study of pathology, and alienistic pathologists stand in the foremost ranks of scientific investigators. A great deal of this work latterly consists in the determination of exact localization, resulting in the precision of diagnosis in tumors, abscesses, embolism, thrombus, aneurism, epilepsy in all its different forms, and many other conditions, opening up thereby a most prolific field for surgery, which in the past few years has done so much for the alleviation and cure of various mental disturbances.

Auto-intoxication, the psychoses of acute infectious diseases, the toxicity of blood serum, the relation of kidney diseases to insanity, the influence of pelvic disorders, the diseases of the ear in the causation of insanity, have all received their share of thorough investigation at the hands of noted alienists and pathologists.

French and German experimenters have corroborated the fact that the centre of intelligence lies in the prefrontal lobes. The pituitary body also has attracted much attention, and the conclusions arrived at seem to tend to the impression that it is instrumental in influencing the assimilation of oxygen.

Ferrier draws the conclusion, from his own and others' experiments, that the old theory that in the cerebellum lies the seat of sexual impulse or desire, is false, and that it has no share in psychical manifestations, its removal causing no discoverable impairment of any of the special senses.

A long list of investigators support the theory of the close relationship in motor and sensory areas in the cortex, proving the areas of Rolando are centres of sensation as well as motion. These are only a few of the many new and intensely interesting and instructive investigations worked out in this prolific field. No section of pathology has received such thorough and untiring work as that of the brain. Insanity has long since passed from being a legal question to being a medical one. Instead of a crime, and treated as such in a most barbarous way, until about the middle of this century, when Miss Dorothea Lynde Dix, with others, carried on a crusade in behalf of a more humanitarian method of caring for the insane, it has become to be considered everywhere a disease requiring the most assiduous treatment. No ailment that the flesh is heir to appeals more earnestly to our professional skill, especially when we are brought face to face with the appalling fact, that notwithstanding the wise efforts that have been called forth, both in the custodial care and the therapeutic treatment along with the study and energy that have been expended in its behalf, it is vastly on the increase; and Dr. Pliny Earle maintains that insanity is as a whole really becoming more and more an incurable disease, due, he says: "To the fact that as civilization has advanced and the habits of the race have been conseqently modified, disease has left its stronghold in the fleshy and muscular tissues and at length seated itself in the nervous system, it follows as a necessary consequence, that, by the continuation of the cause of this change, the diseases of the nerves and brain must become more and more permanent. No one will challenge the fact that the great bulk of insanity is due to ill health in one form or another, yet later statistics proudly point to the column of cures with telling figures, proving most gratifying results from modern methods of treatment; but we cannot help but reflect

that this is but meagre in proportion to the great increase of the disease."

The over-tension of modern life, and the burdens, especially among the more highly organized individuals, which it puts upon the reasoning powers is out of all proportion to that which was placed upon them a century ago. So that summing up the whole knowledge of insanity gained from experience and scientific investigation, not only care and therapy but sociology must lend a helping hand in evolving a state of society with more wholesome conditions than at present exist, to lead us out of the dilemma in which we find ourselves.

Taking the figures of the census of 1890 as a basis of calculation it is estimated that the number of insane, idiotic and feeble-minded in the United States amounts to 250,000, or one-half of one per cent. of the whole population; this represents an increase during the past decade of about 74 per cent., whilst the population increased during the same period only $24\frac{1}{2}$ per cent. Such rich advances and noble efforts have been made in the general care and therapeutic treatment of the insane, but we look forward to the institution of measures that will prove of benefit in the prevention or lessening of this rapid increase. Max Nordau, in his exhaustive work upon degeneration, which contains many wholesome truths for our consideration, but taking his own standards as a guide almost proves himself a degenerate, says: "It is time for medical specialists of insanity to come to the front. It is no doubt meritorious to indurate sections of the spinal cord in chromic acid, and tint them in a neutrophyllic solution, but this should not exhaust the activity of a professor of psychiatry. Neither is it sufficient that he should in addition give a few lectures to jurists, and publish observations in technical journals. Let him speak to the mass of cultivated persons who are neither physicians nor learned in law. Let him enlighten them in general publications and accessible conferences concerning the leading facts in mental therapeutics. Let him show them the mental derangements of degenerate artists and authors, and teach them that the works in fashion are written and painted delirium. In all other branches of medical science it is discerned that hygiene is of

more importance than therapeutics, and that the public health has much more to expect from prophylactics than from treatment."

It is established beyond denial that many of the causes of insanity could be obviated or at least so influenced as to be deprived in a measure of their pernicious effects. Under this head might be included inebriety, morphinism and kindred drug excesses, immigration, intermarriages of consanguinity, ill health due to overwork and mental strain, and bad hygienic conditions.

Forel states that alcohol paralyzes, the highest, most complicated and finest conceptions—conscience and reason. It is stated also that drunkenness is a fertile cause of impure and unhealthy issue, the conditions at the moment of procreation suffice to induce physical and mental inferiority in the progeny. Legrain, of Paris, has traced the history of 819 descendants of 215 alcoholic families. There were 121 premature deaths, generally from convulsions; 38 cases of physical debility, 55 of tuberculosis, and 145 of mental derangement. The present laws governing insane hospitals will not permit the incarceration and detention of inebriates for any length of time sufficient to prove of any benefit. Many of them become volunteers, so-called in some of our private asylums; but the method so far has not been highly successful, for just at the time when the patient becomes extremely thirsty he demands his discharge, which he has a legal right to do, and frequently advised and assisted thereto by the superintendent, simply because he is a discouraging subject for treatment under the present existing laws, and because he is almost sure to become a moral disorganizer in the routine of the institution. There is a crying necessity for some legislation for the protection of this unfortunate class against themselves. Douglas Anderson holds that drunkenness is a disease for which no one should be punished, arising as it does from an unhealthy state of the body or brain. Crothers says the alcoholic inebriate possessed with the impulse to use spirits, manifests simply a symptom of some brain condition which seeks relief. When drinking he neglects hygienic care and becomes oblivious of poisoned air,

bad food, etc. The same may be said of drug habitues. As to the therapeutic treatment of inebriates the consensus of opinion is in favor of the hypodermatic use of nitrate of strychnia. In reference to immigration it is only necessary to state that within the present month, on the 8th, in one day alone there were brought into New York, on various vessels, no less than 4000 steerage passengers, many of whom it is suspected, and no doubt it is true, belong to the defective, delinquent and degenerate class, who will not only directly enlarge the number of insane, but whose progeny will increase the number to an extent that cannot be estimated.

Bearing upon this phase of the subject, that is to say, prophylaxis, is the agitation of the comparatively new science of criminology as treated by such able men as Prof. Lombroso, Max Nordau, Arthur McDonald, and in our own State, Henry M. Boies.

Largely collected and correllated statistics show that the great bulk of criminals belong to the defective or degenerate class. Boies is responsible for the statement that "There is never found in the criminal or pauper class, except by accident, a normal, well developed, healthy adult. We believe that it is established beyond controversy that criminals and paupers both are degenerate. The mind, the intellectual faculties and the soul, the moral faculties,—which are the motive powers of character, which constitute the man,—have their home in his body, to which they are conformed, which they represent, and by which they are limited and controlled in their operations as well as in their conditions. A normal character is not to be expected in an abnormal physique, nor a sound and healthy character in a diseased constitution."

Is it not a startling disclosure, that with the advance of this wonderfully enlightened nineteenth century, notwithstanding all the progress in knowledge and in the arts and in everything that seems adapted for civilizing mankind and developing and sustaining a higher standard of manhood, there should be this revelation, that there is an increase of crime almost twice faster than the rate of increase of the population? The number of inmates in penal institutions of Pennsylvania in the year

1890 was 7340, an increase of 34.7 per cent. over that of the census of 1880, while the population of the State only increased 22.5 per cent. in the same period. It is obvious what an influence this condition of things must exert upon insanity, and demands our earnest consideration and consummate investigation. Pertinent to the point is the notorious case of H. H. Holmes, who proved himself the greatest monumental liar and criminal of the age. Dr. McDonald made a scientific investigation and examination of this arch-assassin while in prison awaiting his execution, and found the tests by instruments of precision, etc., declared him at all points a degenerate. It is to be intensely regretted that the law is so deficient in its efforts in behalf of science, as not to have been able to hand over his brain for the pathological investigation of criminologists and alienists.

In New York State it has been proposed to organize an institution or farm colony for the detention, reformation and instruction of persons convicted of vagrancy, habitual drunkenness and disorderly conduct, without a time sentence; once committed, the convict is to be held at the discretion of the management. This is one step in the right direction, another would be the curtailing of the careless, culpable and criminal exercise of pardons by the Governors of the various States.

With regard to the therapeutics of insanity, the latest and newest experiments have been made with the hypodermatic injections of thyroid extract. Some startling effects have been produced, in chronic delusional insanity more especially, but it is too soon to tabulate any positive results. Duboisine sulphate has been used in the same way as a sedative with good results, it is considered superior to hyoscine and hyoscyamine. Dr. E. N. Brush has written an exhaustive article on Insomnia, in which, if he does not decry the use of hypnotics such as sulphonal, trional, chloral, paraldehyde, hyoscine, the bromides, etc., he at least finds that they seriously disturb digestive and renal functions and produce themselves symptoms of toxic delirium. He says: "The modern treatment of insanity and of nerve disorders in general may be summed up in tonics, food, rest, and attention to personal hygiene, under which may be

included attention to all the physiological functions." One of the undoubted advances in therapeutics is the antitoxin treatment of tetanus, as is also the tenotomy of the eye muscles for epilepsy.

If what has been said has been suggestive and stimulative of further study it has served its purpose.

ADDRESS IN SURGERY.

By J. J. BUCHANAN, M.D.,

SURGEON TO MERCY HOSPITAL, PITTSBURG.

Mr. President and Members of the Society: The purpose of the Address in Surgery, as set forth in the resolution which made its delivery an annual custom, is to review the advances which have been made in surgical practice during the preceding year. Since the adoption of this resolution, the field of surgery has become so wide and the changes in practice so numerous that a satisfactory review of them would occupy much more time than is allotted to this address; and the bare enumeration of these changes would be a task neither interesting nor profitable. For this reason, I feel that no apology is required if I ask your consideration of a few of the common things in surgery, most important because they are common.

In each of the subjects which I shall now bring before you, there have been changes in practice during the last few years which are of the utmost importance, and, if I seem to dwell on things already well known and accepted by you, it is from a deep conviction that, although you and I accept them, there are many others who do not; and to them a reminder of important advances may not be untimely.

By far the most important subject in general surgery to-day is the treatment of appendicitis—acute, chronic and relapsing. The wide divergence of opinion as to the proper treatment of this disease increases greatly the responsibility of the attendant. Those surgeons are to be envied who have but one rule of action—to operate on every case at any stage, as soon as the diagnosis is made. Unfortunately, to render this practice safe requires a degree of skill and experience not possessed by the majority of surgeons.

On the other hand, the expectant treatment of every case of appendicitis, even the mildest, is fraught with the greatest anxiety; for reliable prognostics of safety are absolutely lacking. I presume that no one to-day will claim that drugs have any place in the treatment proper of this disease. If the physician give opium, he is merely covering the symptoms, and, if he exhibit purgatives he may be doing worse, and certainly cannot by this means cure a condition which would not spontaneously recover. With rest, diet, nursing and abstinence from meddlesome drugging, the majority of patients do recover; but who is there who can assure any patient of his safety? A sudden perforation of the appendix or the rupture of an abscess wall may, in a few hours, convert an apparently favorable condition into one almost completely hopeless.

Giving due consideration to this element of uncertainty, to the excellent results which follow the early operation and to the immunity from subsequent attacks, which it confers, it certainly seems that the course of greatest safety consists in removing the appendix in the very incipiency of the disease. It is yet difficult to obtain the consent of patients to the early resort to operation, especially if the attack appear to be a mild one; but it is probable that when the insidious and deadly nature of some forms of this disease becomes better understood by the people, their reluctance to submit to early operation will be less pronounced.

However, there will still be cases in which an early diagnosis has not been made or the patient has declined operation early in the attack. In these cases, when the period for primary operation has slipped by and an exudate has formed which may have an abscess of considerable size at its centre, the operation at once becomes a matter for more grave consideration.

Opinions differ as to the proper procedure at this stage of the disease. The gravity of the operation here depends on the position of the adhesions. If the appendix or the abscess cavity can be reached and dealt with without opening the general peritoneal cavity, the operation is safe and beneficial. If the abscess cavity has to be reached and drained across this serous

sac, the operation is most hazardous, and, despite the greatest care, is often followed by a fatal issue. Many advocates of invariable operation have no hesitation in dealing with such abscesses across the free peritoneal cavity, protecting the latter with gauze packing. However skillful such operators are, and however good their results, the fact remains that, by surgeons ordinarily expert and resourceful, such attempts are often followed by septic peritonitis and death. With the technique at present available, it is more prudent for most operators to attack these abscesses at a point where adhesions have probably taken place, and therefore, without opening the general cavity of the peritoneum. If this space should be opened, opportunity is given of locating the line of adhesions, when the first incision can be closed and another made in a safer locality.

Whether the appendix should be invariably sought out and removed after evacuation of the appendiceal abscess has furnished grounds for much discussion during the past year; but the conclusion of most operators is that, if it is easily accessible, it should be removed, but if it is imbedded in the abscess wall and its removal would imperil the integrity of the latter and risk an opening of the healthy peritoneum, it should be left severely alone.

Operators generally agree that the acutely perforating or gangrenous appendicitis should be treated by the most prompt operation, and these cases, if skillfully operated, are by no means hopeless. The most positive advance during the year seems to be in the growing tendency to operate on cases of recurrent and chronic appendicitis between attacks, and it would not be strange if it should soon become the general practice to remove the appendix of every individual who has had an undoubted attack of appendicitis, especially if the indurated appendix can be felt.

In concluding this subject, I would insist that there are two periods at which the appendix can be safely removed, namely, in the very beginning of the acute attack and in the interval between attacks, and that all cases seen at either of these periods should be at once operated on if the diagnosis be clear and consent obtained.

I will now ask your attention to a few points in the treatment of fractures, a subject which has an active and personal interest for a larger proportion of general practitioners than has any other branch of purely surgical practice. From the earliest times, the strongest interest has been displayed in the study of the repair of fractured bones, and the greatest ingenuity has been exerted in the invention of appliances which might conduce to this repair. The essential factor in repair is callus, and a leading indication for treatment is to secure a sufficient but not immoderate amount of this reparative material. The most favorable conditions for the formation of callus are an unimpeded blood supply, approximation of the fragments as nearly as may be, and quietude of the parts without absolute immobility.

A revival of interest has occurred in the operative treatment of simple fractures by open incision and fixation. Since the antiseptic era there have been periodical attempts to bring this procedure into general use; but the good results usually attainable without operation have hitherto prevented this method from becoming popular. Cases present themselves, however, at rare intervals, in which reduction cannot be satisfactorily accomplished by the most persistent manipulation from without. When the site of fracture is accessible, these cases are treated with the greatest success by the open method; for the apposition can be most perfectly made and fixation accomplished by suture or pegs. The result justifies the trifling risk incurred and considerable deformity is thus prevented. Two errors are to be avoided in carrying out this treatment. The first error is in the tendency to apply this seductive method too widely and to operate on cases which could, with equal or even greater advantage, be treated without operation. The second error is in removing detached fragments of bone, which are valuable in hastening consolidation, and the loss of which frequently delays union. There is no doubt that the progress of repair in fractures thus treated is slightly more protracted than is that of simple fractures of the same kind, on account of the absolute immobility of the fragments, which delays the production of callus. Still, it is certain that the operative

method is destined to have a wider application, and, with proper limitations, will prove a valuable accessory in the treatment of many difficult cases.

The most recent changes advocated in the general method of treating fractures of the lower extremity have been in the direction of allowing greater freedom to the injured part. They are represented by the ambulatory treatment, and that by massage and passive movements.

The so-called ambulatory treatment of fractures of the lower extremity, according to most of its exponents, consists in approximating the fragments, applying a fixation dressing, by means of which extension can be kept up by its application against such points of vantage as the tuberosity of the ischium for fractures above the knee and the head of the tibia for fractures below the knee. An elevation of the sole on the sound side and a prolongation of the splint to a corresponding distance below the sole on the injured side, permit the patient to bear the weight of the body alternately on the two sides, the weight being transmitted, on the injured side, from the tuberosity of the ischium or the head of the tibia, as the case may be, through the splint to the ground. In this way the patient escapes confinement to bed and has the benefit of out-door exercise. It is said that muscular atrophy is prevented and that the gentle stimulus of motion somewhat hastens union.

The treatment by massage at and near the seat of fracture, together with passive movements of the neighboring joints, is a method which entails great labor on the attendants, but has much to recommend its adoption.

The ideal treatment of ordinary simple fractures after reduction should meet the following indications:

1. The fragments should be retained in their normal relations as nearly as may be;

2. Splints or other dressings should be easily removable without appreciable disturbance of the seat of fracture;

3. There should be no constriction to interfere with the circulation of the part;

4. The dressings should be removed at short intervals to permit examination of the seat of fracture, massage of the cal-

lus and neighboring muscles, gentle stimulation of the growth of callus by the slight disturbance incidental to the removal and reapplication of the dressings and passive movements of the adjacent joints, when these can be made without disturbing the relation of the fragments.

The most important accessory in this treatment is a satisfactory removable splint, one which fits the part with such accuracy that its reapplication after removal is never a matter of experiment, and which is so light as to be no burden to the patient.

The form of splint which I have used for more than two years to the exclusion of all others is the removable splint of plaster of Paris. It is easily and quickly applied. It fits the part with absolute accuracy. It causes no discomfort whatever to the patient. It can be removed and reapplied when necessary. The cost of the materials is trifling and their compactness renders this the most portable of all splints.

In the application of this splint, an outline of the shape required is cut from a double layer of lintine, which is a firmly compressed cotton sheeting. One of these layers is placed upon a table and two of the gypsum rollers are soaked in plain, cold water till the air bubbles cease to rise. One of the plaster rollers is then spread on the layer of lintine as it lies on the table. The plaster roller is passed backward and forward from end to end of the lintine till the figure is entirely covered with from 4 to 6 thicknesses of the plaster bandage. This is laid as smoothly as possible, and can be made thicker at some parts than at others if desired. When the desired thickness is attained, the other piece of lintine is applied to the upper surface, to which it will adhere. The edges are then trimmed with scissors, where the plaster overlaps, and the splint is ready for application. It is then about as flexible as a wet dish-rag. The limb is elevated and the limp splint is applied directly to the surface and held there by an assistant. The application of a roller bandage adapts this moist and clinging splint exactly to every inequality of the part to which it is applied. The limb can now be placed on a pillow and steadied, while a splint of the same kind is prepared for the other aspect

of the limb if necessary. By the time this is ready, the first splint will be found sufficiently hard to give a good deal of support to the part. The second splint is applied to the other aspect of the limb over the muslin roller and the dressing is complete, and in ten minutes will be found perfectly hard. When it is desired to remove and reapply the splints, each should be applied in its own turn and with its own roller. In this way no part of the limb can be pinched between the edges of the splints, which occasionally happens when both splints are applied directly to the skin by a single roller.

Under no circumstances should any padding be placed next to the skin, unless it be the necessary dressing for a wound, as in a compound fracture. All such dressings should be as light as is consistent with safety, and should be duplicated as nearly as may be when the splint is removed for a renewal of the dressing.

If the splint should cause the least discomfort by pressure on any salient process, no padding should be used, but this part of the splint should be cut out or cut off, and the pressure will be at once removed.

In conclusion, let me call your attention to the advantages of the infusion of large quantities of normal salt solution into the veins after hemorrhage from accident or operation. By large quantities I do not mean one or two pints as is often used; but many quarts. A few weeks ago I reported the case of a man whom I attended about a year ago with profound loss of blood from a limb crushed so as to require a thigh amputation, into whose veins, during the six hours before operation, I had infused six quarts of saline solution with the gratifying result of reaction and recovery. Since that time I have used even larger quantities with marked benefit. Two weeks ago, my friend and colleague, Dr. R. W. Stewart, performed a thigh amputation on a patient whom he had restored from a pulseless state by the intravenous infusion of six quarts of salt solution. Eight or nine hours later, the patient again became pulseless, and was again revived by the infusion of four more quarts. This time the reaction was permanent, and the patient is recovering.

I am convinced that the advantages of these enormous infusions into the circulation are not appreciated, and that the frequent failure of the salt solution is due to the fact that one or two pints is used where many quarts should be administered, and that the treatment is abandoned after the effect of a single infusion has passed away, whereas one or more repetitions of the dose might have saved the patient's life.

In closing this address, permit me to thank you for your patient hearing of things which are, without doubt, important, but which I fear may have seemed to you well worn.

ADDRESS IN HYGIENE.

By J. W. MOORE, M. D.,

EASTON.

All men are inclined to confound theory with fact. The latter may be perfectly confirmed and susceptible of belief, while the theory in reference to the same fact may be absolutely worthless. It would be well if what we know was always printed in large type, and what we think we know about what we know in lower case. In our blind seeking after truth we are compelled to set up working hypotheses which are intended to be battered down if possible; if they withstand all the assaults of competent observers they are raised to the dignity of theories, but are not even then to be accepted absolutely, but only as temporary expedients upon which to hang the triumphs of science. Theories can never command the respect attached to mathematical demonstrations; they are simply, the best of them, only probable. They may even be a source of resistance to the advance of knowledge, but if not, no moan need be made when, having served their purpose, they are laid to rest in honorable graves, while other stake their place more adapted to explain the new knowledge of our environment, made new by the very death of our old fetich. In no department of science is the confusion of fact with theory so patent as in that of medicine. It makes little difference to humanity in general whether light consists in undulations in the luminiferous ether or of material particles shot out from luminous bodies, but when regulations are to be established for the government of others besides ourselves, it does make a great difference whether Boards of Health confounding fact with theory or the reverse, accept the contagious or non-contagious character of a particular disease. If advance in sanitary directions is to be made

in this country where every man has a vote, it would be well not to accept too readily the reasonings of all who have access to the public ear through the gloriously untrammelled press. The one scientific fact most in evidence is that froth is, as it ought to be, on top; its on-toped-ness is strong evidence of its being froth.

In general science the pendulum swings from one extreme to the other. The atomic theory of matter proposed, believed, rejected, has become the chief corner stone of the modern scientific temple. Who knows but that the next generation will laugh at its ancestors for accepting so absurd a theory and their children at them for rejecting so beautiful an expression of all physical phenomena. Faraday was scoffed at for looking for the cause of electrical action in the medium surrounding the wire and not in the wire itself; to-day he would be a rash man who would express a doubt on the subject. Until the twenty-one coefficients of molecular dynamics are discovered, who of us will venture to predict what the ultimate theory of light and electrical action will be? It is the same in the domain of medical science. Van Leeuwenhoek, Pasteur and Koch are the beginning but not the end of the science of bacteriology. Plenciz stated a thought which other men had had; the proof or disproof of its truth is the work of ages.

Our profession has been satirized with justice for the avidity with which it accepts novelties, the enthusiasm with which it exploits them and the complaisance with which it rejects them, reversing the method of scientific procedure to "prove all things; hold fast that which is good." To one engaged in another branch of science it is a constant source of surprise how quickly things are "established" in medical science. We pray that some one will be sent to us to cause our troubles, like the fitful substance of a dream, to disappear, but our prayers are not answered. We read "in 1882, Robert Koch presented to the medical world a *complete* demonstration of the cause of this dread disease" (Consumption). Again "a more common mode of infection, especially in children, is probably by the way of the intestinal glands from the ingestion of milk of tuberculous cows." Again we hear that "fully one-fifth of the

deaths of infants and children feeding on unmodified milk is due to tuberculosis commencing in some part of the digestive organs." How precise the proportion, how very sure the statement, of which it may be said that there are no statistics upon which any such conclusions can be made. By the way, great numbers of observations are published showing the prevalence of tuberculosis among dairy cows, particularly Alderneys. The conclusion is at once drawn, that tuberculosis is communicated to children from these animals in the milk they drink. Is it a fact that the greatest ravages of tuberculosis are among the poor who suckle their children and not among the rich who use the products of the dairy? It is said that "Professor Demme records the cases of four infants in the hospital, the issue of sound parents without tuberculous ancestry, that died of tuberculosis as the result of feeding on the unmodified milk of tuberculous cows." Please notice that in this short statement that there are six propositions which would require hundreds of observations and experiments to prove—first, the issue of sound parents; second, without tuberculous ancestors; third, died of tuberculosis; fourth, as the result of feeding; fifth, on the unmodified milk; sixth, of tuberculous cows.

No one can fail to appreciate the great work that has been wrought in the department of bacteriology during the quarter of a century just passed. It is not with any idea of detracting from the glory of the scientific men, who have brought fame to themselves and added much to our knowledge of the origin of the disease, that this paper is written, but rather to caution the profession against too hasty generalizations upon insufficient evidence. The questions of bacteriology are those of pure science, and are to be settled by methods exactly like those used in electricity or astronomy. There is no occasion for partisanship or heat. All investigators are in pursuit of the same thing—the truth. The melting furnace will destroy all but the pure gold, and the melting furnace is necessary. In all searches after truth the necessity of having the mind a *tabula rasa* is evident. There must be no bias and hence no pre-conceived opinions. There may be flights of what Tyndall called "the scientific imagination," but these are not opinions but at-

tempts to discover truth by adopting provisionally as truth what may prove to be error. There must be positive opposition, not to the trial of, but to the acceptance of novelties. New things are not necessarily true; old things are not necessarily false. New things must be tried in the fire to test their truthfulness; old things must be compared with new truths to establish their right to continued acceptance.

The attitude of the agnostic is a commendable one; it is only the ignorant who are sure of everything. The scientific pose of mind—holding the balance with an even hand is as unusual as it is desirable and necessary if truth is sought.

Having these views it seems better, instead of running over the advance of the last year in hygiene, to discuss a subject of vital interest to all, *the necessity of conservatism in scientific induction and deduction.* Here let us premise that there can be no conflict between the results of the various methods of discovering truth. Clinical truth, epidemiological truth and biological truth are one. All lines of investigation converge to one point. If the results are conflicting, further investigation must show the reason for the conflict; it may be imperfect methods, unskilled workmen or untrue deductions.

An examination of the methods and work of Koch show that he is endowed with the scientific instinct. We owe a debt of gratitude that one so organized has at last introduced into these departments the methods of pure science. The science of medicine, so-called, will now become what it was not, a true science.

The existence of contagion cannot be established by opinions. Opinions formed by the uneducated are of no value; those formed by great men often have no more value. The opinion of Newton backed by the prestige of his name, retarded the science of optics for a century; his statement that dispersion is proportional to refraction, hindered the development of optical instruments for many years. Young and Fresnel died before Newton's own guns were turned upon him and his very weapons used with success to disprove his own theory. Ohm went to a lamented death because he was not appreciated by those who claimed superiority; to-day his detractors are for-

gotten and his law used as the basis of the mathematical science of electricity. It required an unschooled Faraday to wreck the old theory of electrical action, and in addition fifty years to develop what he so plainly saw. But more than this, an immortal had to come to earth in the person of Clerk Maxwell, to interpret Faraday's thoughts. Any number of opinions on one side may be neutralized by the same number upon the other; there is no method of determining the relative merits of the two, and without this knowledge there can be no decision of the question. These differences of opinion simply prove that the profession is not a unit.

Reasoning from analogy may lead into very serious absurdities. Analogy does not prove anything; it is intended more for defence than offence, more for position than for attack. It is continually used in science, but its conclusions must be very carefully verified. Waves are produced in a medium by a disturbance. Hence to transmit sound waves, for example, there must be a medium, but to produce them there must be a source of disturbance, and to produce the sensation of sound there must be an organ to receive the waves. By analogy we say that light consists of vibrations in a medium because for every phenomenon in sound there is a corresponding one in light. Now one case of dissimilarity will overthrow the whole theory, just as the molecular theory of light was overthrown by the experiments on interference. For contagion there must be a medium, a source of disturbance, and an organ to receive it; the analogy is complete but no one believes that sound, light and contagion are manifestations of the same thing. We have been comparing the points of similarity of dissimilar things. The source of disturbance in sound is mechanical; the source of disturbance of contagion is not.

Imperfect induction is just as fatal as poor analogy. A very large field must be explored before it is safe to make a generalization. The number and distribution of the observations in all cases must be great and large. Mistakes are continually occurring and there are but few who have the necessary knowledge to venture into this field. A native of Siam, from many observations extending over a long period, concluded that he

was familiar with the physical properties of water. In his travels through Siam from his youth up he had always observed that in every place and under all circumstances water was liquid. In coming to this country wherever he observed water it existed in the liquid state. From his point of view, he was perfectly justified in making the general conclusion that water under all circumstances, of place and temperature, was neither a solid nor a gas.

A short time after his arrival in America he looked out of his window and saw solid rain falling; this upset all his ideas of what rain ought to be and he inferred that what he saw was not rain. But after experimenting upon this strange substance, he at last was forced to the conclusion that water could actually exist in the solid form. The number of observations was sufficiently great to enforce a probability, but they were not sufficiently widely distributed, and the conditions were not varied enough.

Science is now breathlessly waiting for some genius of infinite grasp who will bind the fruits of investigation into one sheaf and present to the world a generalization which will include as parts all the so-called principles. Men of great synthetic power are rare. A Newton, a Helmholtz, a Thomson, only occasionally appears upon the scientific horizon. The theory of the conservation of energy could only be propounded by one whose mental grasp left the little things and surveyed the whole landscape of natural facts.

Suppose an attempt is made to prove the contagiousness of tuberculosis from the statistics of a ward of a given city by the analogy of tuberculosis with scarlet fever, diphtheria, small-pox, measles and typhoid fever, the attempt will evidently fail, because the cases are not sufficiently numerous or sufficiently widely distributed. Moreover, if the contagiousness of only one of these diseases has not been scientifically established and the proof of contagiousness of tuberculosis has been averred upon its resemblance to it, the very thing is disproved which was attempted to prove. If the future shows that all the other diseases mentioned except small-pox are not contagious in the "widest sense," the method will be used to prove the

non-contagiousness of tuberculosis, and with the same defect of reasoning for one case of contagion of tuberculosis will overthrow the whole labored structure. (The Contagiousness of Phthisis, Trans. Penna. State Med. Soc., Vol. XX).

In the comparison of likenesses it is easy to fall into error by confusing coincidences with similarities. An attempt to prove the contagiousness of a disease by counting the number of cases which have occurred in a given locality in a given time is dangerous, as it may easily lead to incorrect inductions. There are so many other circumstances affecting the communicability of contagious diseases besides propinquity that the founding of a conclusion upon this alone is insufficient. To illustrate, take the case already cited. Here is a limited district and a limited number of cases occurring in a limited number of years. Suppose, to illustrate the point, the following problem is proposed for solution: Take a handful of iron shot, the number of shot equalling the number of cases in a given year, and imagine the shot to be thrown into the air *at random* over a given city ward, what are the probabilities that one shot will fall on each roof? Is there one chance in a million that this result can occur? Now suppose that this experiment is carried on annually for twenty-five years, what are the probabilities of there being an even distribution of the shot in all this time? Is there one chance in infinity that single shots will fall each on a single roof? Is not the probability all in favor of having several shots on various roofs in different parts of the limited space?

Let the problem now be changed somewhat. Suppose that in various houses in the district there are magnets arranged so that the iron shots in their fall shall be attracted to these special points. The probability of the even distribution of the shot is still less, for modifying circumstances are called into existence which will materially change the result of the experiment. There can be no doubt now that there will be found, for example, eight shots on one roof, ten on another, four on another, and fewest where the attraction is least.

Substitute for iron shot, cases of tuberculosis, the number of cases equal to the number of shot thrown *at random* in a given

year, and can there be any difference in the logical outcome? For the magnets in the various houses substitute something which attracts disease, darkness, bad air, uncleanliness, poor diet, drunkenness, crowding, what are the probabilities that in twenty-five years, if the disease is supposed to be propagated *at random*, that there shall be eight cases in one house, six in another, four in another, and none in the majority? Can contagion be hypothecated on investigations of this character?

Just here it is well to observe that the number of observations has much to do with the convincing power of the evidence in proving a given propositson. In physics when several observations of equal weight are made, the arithmetical mean is the most probable value. The accuracy of the mean is proportional, not to the number of observations, but to the square root of the number of observations—to double the accuracy of the mean of a given number of observations, the number of the latter must not be doubled but quadrupled. If the observations do not have the same weight, are not equally reliable, the weights must be taken into the consideration.

The difference between apparent medical methods and those of physics, for example, may be illustrated by the determination of "the mechanical equivalent of heat," and by the discovery of cæsium by the chemist, Bunsen. After seven years of laborious experimentation Joule ventured to publish his results as approximate. For thirty years more he wrestled with the problem, changing his methods, checking his work, improving his apparatus, simplifying and refining his observations. Rowland, of Baltimore, repeated Joule's experiments and published his results, some of which were the means of 12,000 distinct observations. Nature refuses to answer questions unless they are properly and persistently put. Bunsen noticed some new lines in the spectrum of spring water near Dürkheim; he evaporated forty-four tons of it and extracted two hundred grains of the new substance, cæsium. Now, if inanimate objects require so much time and trouble and thought to extract their secrets, how much more difficult must it be to wring from animate objects even the simplest truths.

The old proofs of the contagiousness of a disease are not ob-

solete. A contagious disease spreads from a centre like the waves from the falling stone on the quiet surface of a lake; the attacks of individuals are, therefore, not simultaneous but consecutive. These facts are shown in the rise and propagation of small-pox. If different persons have varying susceptibilities these variations must be noted. There is one point which we are apt to forget and that is that two things must be proved, the first, that those who were not in contact did not have the disease; and second, that some who did come in contact did contract the disease.

For a given disease, tuberculosis for example, conditions may arise which make it practically impossible to apply the method. The fact is that the great age of tuberculosis as a disease and its universal distribution, make it impossible to apply to it the arguments which would be used to prove the contagiousness of small-pox, for example. Hence "a house which has had a case of consumption will have another within a few years;" "or may have a large number in a few years;" "approximate houses are exposed to the contagion;" "some houses escape;" "tuberculoses of various kinds occur in the same localities," have no very great weight when applied to a disease so widely extended that the method of proving its centrifugal distribution entirely fails.

It is said that "probably the most logical and most convincing proof of the contagiousness of a disease that can be offered is to show that it did not exist among people and in countries until it was introduced from without." And then follow opinions of people who had not and could not have the extended view necessary to show that consumption either did or did not exist in America at the time the opinions were expressed. Dr. Rush, Lieut.-Gov. Colden and Dr. Lettson, were all very worthy people, but if Newton could be mistaken in a subject in which he was master, we need have no scruple about rejecting these opinions. If there was an increase in the number of cases of consumption in America, it can be easily accounted for by the increase in the population by immigration.

The force of the argument entirely disappears if it be admitted that consumption did exist among the American Indians

before the advent of Europeans, or if it is shown that it has not been proved that the Indians were not subject to the disease before their coming. Now history shows that before the landing of the Pilgrims and before the landing at Jamestown, Europeans had been visitors to this country and to make the statement that first the Indians were not subject to the disease which we cannot prove and then that it was brought by the visitors which cannot be any better proved from statistics, is asking too much. From this it follows that it must be shown that the original visitors contaminated the natives, and this fact cannot be established without statistics, which of course have no existence and never had, so that the statements given by the writers are of no value as evidence.

As to the argument that our consumption resorts have become centres of infection and have lost their original value, something should be said. It is generally admitted that climate has a great deal to do with the rise, progress and outcome of tuberculosis. The Spanish portions of America having a mild and what is specially to be considered a climate not characterized by sudden changes, such as New England, would naturally be freer from consumption than the latter. It has not been proved, however, that there were no original cases of consumption in these regions. The statement that "intelligent natives" say that the disease did not exist prior to the coming of the English has no value unless the words "to their knowledge" are added, when it becomes of less value. The apparent increase in the number of cases of consumption in resorts of this character, may be due to the fact that permanent colonies of consumptives have been there established, and not to contagion. It must be shown that the natives who have come in contact with the visitors first were free from the disease and afterward became subject to it. I have seen no statistics which throw any light on this subject. It is to be hoped that they will be forthcoming. It must be shown not that the total number of cases has increased, but that the increased number is found among the natives previously free from the disease. Per contra let us take the following statistics, presented by Dr. Mays in his address in 1890, to show the effect of exposure. Among

29 physicians, 150 assistants, 101 nurses in Brompton Hospital for Consumption, in 36 years, there was not a single clearly authenticated case. In 16 years out of 459 male nurses in Friedrichshain Hospital, Berlin, there were four cases, two of whom were diseased before entering; 339 female nurses furnished 2 cases; 83 physicians 3, one of whom entered with the disease; of 108 Victoria sisters in the same hospital who acted from two to five and one-half years, there was only one consumptive. In Dr. Schnyder's of Switzerland, 844 cases, 445 husbands only were consumptive, 367 the wife only, and 32 both husband and wife. Dr. Flint's 670 consumptive husbands and wives furnished 5 suspicious cases; M. Leudet's 112 widowed, whose consorts died of consumption, furnished 7 phthisical cases.

The modern theory of the parasitic origin of contagion requires the establishment of postulates the most difficult to demonstrate the whole range of science. Much work has been done by competent observers, but much remains to be done. Pasteur's experiments in which he showed that sterile organic liquids are protected indefinitely by sterilized cotton air filters, seem to point positively to the conclusion that the organisms are the cause of the chemical changes, particularly when it is added that if the air filters are removed putrefaction or fermentation occurs. The specific action of microbes in the alcoholic fermentation of saccharine liquids, the acetic fermentation of alcoholic liquids, the acid fermentation of milk and many others, is generally acknowledged. These results, however, simply prove that microbes are concerned in the chemical actions of putrefaction and fermentation. The experiments of Pasteur on the cause of the infectious diseases of the silk-worm and the proof of the presence of microbes with the successful prevention of the diseases, show a great advance in the discovery of the cause of disease in the silk-worm. The destruction of field mice by feeding them a bacterial culture which produces a fatal infectious disease, is a still further development of the subject. The experiments upon the lower animals to prevent the spread of infectious diseases among them with the successful application of derived methods point in the same

direction. These brilliant discoveries could not fail to draw the attention of investigators to the subject of contagious diseases in man and the setting up of a working hypothesis was inevitable. It is this hypothesis that will next receive attention.

There must be a morbific cause. The developments of science during the last century have dispelled the old illusion that effects can be produced without adequate causes. Spontaneous generation has disappeared from the realm of physical investigation; reproduction can only be accomplished by a previously existing living body. This postulate has clarified the mental horizon and rendered comparatively easy the explanation of phenomena which a short time ago were deemed inexplicable. This is so true that the assumption of a micro-organism in disease has been readily received. The distribution of microbes is widespread. The recent investigations of Frankland upon the microbes of water add new interest to the subject, but are a cautionary signal for us not to make hasty generalizations or to come to too rapid conclusions in any particular case of the presence of microbes.

The mere presence of a microbe, however, is not evidence of its morbific character. Among the infinite varieties there are few organisms which by any stretch of the imagination can be regarded otherwise than as beneficent in their action; most are harmless, some, perhaps, curative. Their very presence enables us to exist; they are the harbingers of our salvation, the scavengers which enable nature to dispose of the sewage of our systems, to prepare the soil for vegetable life and to make the earth habitable. It is not a strange thing then to find micro-organisms in diseased parts. It would be a miracle if they were not present. Microbes are found in anthrax, relapsing fever, actinomycosis, thrush, ophthalmia, enteric fever, gonorrhea, glanders, tuberculosis, pneumonia, diphtheria, cholera, tetanus, influenza, etc. (Sykes).

Proof must be given of the pathogenic character of the particular microbe under examination. There are many diseases in which microbes are present but their specific character is doubted—cerebro-spinal fever, diarrhea, dysentery, erysipelas,

foot-and-mouth disease, hospital gangrene, hydrophobia, malarial fever, measles, rotheln, mumps, phagedena, puerperal fever, pyemia, yellow fever, etc. (Sykes).

Again the most contagious diseases known so far as investigation has gone give no evidence whatever of the presence of microbes—chicken-pox, cow-pox, small-pox, plague, dengue, syphilis, typhus fever, typho-malarial fever, whooping-cough. (Sykes). This fact adds difficulties to the hypothesis which are not to be lightly brushed aside.

The proof of the disease-producing character of a particular microbe is not easy. Koch laid down postulates which must be accepted or rejected in any given case:

First, the specific microbe must be present in every case of the disease to which its action is ascribed. Well authenticated cases are on record when bacilli could not be detected in the expectoration of patients presenting all the symptoms and signs of pulmonary consumption. (Paul H. Kretzschmar in Dr. Dettweiler's Method of Treating Pulmonary Consumption). Demme reports a case in which at first no bacilli appeared, and later in the thickened and yellow expectoration three or four in each field. (*Berliner Klin. Woch.*, 1883, p. 217). What is the status at the present time of the experiments of Scheuerlen, Klemperer, Brieger, Rosenbach, Passet, Grawitz, Behring, Charren, Arloing, De Christmas and others on the production of suppuration by mechanical and chemical actions and by the products of bacteria? Have they been disproved? If so a lesson in modesty is presented which ought to be effective. How long has it been since the atmosphere was regarded as the most important factor in the etiology of suppuration?

Second, the particular microbe must not be present in any other disease.

If there are different microbes present there must be a differentiation of the specific one. In suppuration it must be shown that the typhoid bacillus, the bacterium coli communis, if present, do not produce the effect, but a specific microbe; and in typhoid that the coli communis does not produce the symptoms. In tuberculosis the tubercle must be differentiated from the smegma bacillus, the bacillus of syphilis and the

bacillus of leprosy. The bacillus of pneumonia is found in cerebro-spinal meningitis, pleuritis, peritonitis, pericarditis, acute abscesses, suppurative tonsilitis, in the discharge in otitis media, and, perhaps, in arthritis following pneumonia and in the saliva of healthy persons. (Abbott). From these statements it looks as if the mysteries of the bacterial family had not yet been even superficially examined. And in suppuration the staphylococci, epidermidis albus, pyogenes albus, pyogenes aureus, and citreus, the streptococci-pyogenes (Rosenbach) and erysipelatis, and the bacilli, pyocyaneus and pyogenes fetidus (Passet) and the pneumococci of Fränkel and Weichselbaum, the bacillus coli communis, the bacillus of typhoid and the micrococcus tetragenus present work on differentiation for years to come.

The spirilla are very numerous. The cholera spirillum, Finkler and Prior's, which is said to be harmless in man, Denecke's which thrives in old cheese, Metchnikoff's which is said to be pathogenic for animals, S. Berolinensis when intraperitoneally injected into guinea pigs produces death, S. Dunbar, S. Danubicus, Wernicke's No. I and No. II, which are pathogenic for guinea pigs; also S. Bonhoffi, pathogenic for guinea pigs, mice and canary birds, and S. Weibeli, Milleri, Aquatilis and Trigenus will serve for still further investigations (Abbott).

The third postulates that the microbes, isolated and cultivated in pure cultures, when injected into a lower animal or in man must reproduce the disease. Isolation and propagation have been the subject of numerous experiments. If these postulates are necessary, and to one who is seeking the truth only they seem to be, the failure to produce an isolated culture is fatal. Hence, when the claim is made that relapsing fever is due to the presence of a particular organism, and then the remark is casually added that this organism has never been reproduced in artificial and pure cultures, a very essential link in the chain of evidence is lacking. When the bacillus which is supposed to produce a given disease is introduced into the body of a susceptible animal, it is often said that the bacillus is reproduced, but what ought to be stated is, not that

the bacillus reproduces itself, but that it reproduces the disease. Has a characteristic reproduction of any disease in its entirety ever been demonstrated? Again it is noticeable that the statement is often introduced that the organism when injected produces death; this fact has no value unless it is shown that the cause of death was the reproduced disease.

The difficulty of proving that the microbe is the cause of a disease and not merely an accompaniment, has led many to take the position that the symptoms are due not to the microbe itself, but to some poisonous product of microbic action. Those who accept this view look upon the organism as indirectly the cause of disease. If this position is tenable, proof of the presence of the microbe previous to the development of the morbid symptoms must be produced. If tuberculosis, for example, is due to the elaborated poison of the tubercle bacillus, it must be shown that the tubercle bacilli existed before the symptoms of tuberculosis became evident. Hence, those who adopt the latter view must show that the ptomaine is the cause and that the microbe is not the cause. While it is asserted that the proposition that microbes appear *after* the effects of chemical action is disproved, the last word has not been said on the subject. Has a characteristic reproduction of a disease in its entirety by the products of microbic action ever been demonstrated? The reality of the reproduced disease is the *experimentum crucis* of this part of the subject. The difficulties are great but not insurmountable.

The fourth postulate requires that the specific germ must be found in the tissues of the subject in which the disease has been reproduced. Is it rationally necessary to contend that a soil conducive to the development and multiplication of one organism must not be identical with that necessary for another? If so, then two bacilli which are found in the same soil must be identical, so that if the tubercle bacillus and the Kleb's-Lœfler should be found under the same conditions, the conclusion would necessarily follow that they were identical. If two bacilli appear in different soils they must be different; if the typhoid bacillus and the coli communis are found in different soils the conclusion must be that they are different. If appar-

ently like bacilli appear in different soils they must be different, hence the Kleb's in diphtheritic sore throat and the Kleb's in the healthy throat are different.

If the same germ can develop and multiply in different soils, it may be found in all diseases, perhaps, and its specific character cannot be determined. If different germs require different soils, various germs may appear in different diseases, not because the germs have specific pathogenic properties, but because they there find their proper nidus. Hence, if it is admitted that the necessary soil may exist in various places, there is no difficulty in understanding why the Kleb's-Lœfler bacillus is not present in every case of diphtheritic sore throat, and why, even in the apparently healthy mouth, it may develop and multiply. If the other horn of the dilemma is taken, that different bacilli can develop and multiply in the same soil, the theory falls to the ground. The only tenable position, in that case, is that the soils are different, although they are apparently the same.

Let us examine the status of these postulates in the light of more recent discoveries.

The first that the bacillus must be present in every case of the disease as exemplified in the case of tuberculosis has reduced itself to the statement that in every case where it does exist we have a case of tuberculosis, and where it does not exist it is not tuberculosis. This is reasoning in a vicious circle, a method which would not be permitted in a question of pure science. To demand that the tubercle bacillus must be present in every case of tuberculosis, and then to call every case where it is present tuberculosis, is obviously unfair to the clinician whose work is quite as important as that of the bacteriologist. If one begins with the microscope and ends with the microscope, there can be only one conclusion, and that is based on the microscope. The proper method is to diagnose the case in the ordinary manner, and then to determine the presence or absence of the supposed disease germ. It is only after an hypothesis has reached the dignity of a theory that we have a right to state, for example, that the presence of a microbe is absolute evidence of the presence of the disease, or that the microbe is the disease.

Koch insisted upon the necessity of these four postulates. Some of his followers are satisfied with a less number. To illustrate, allow me to quote from a text-book (M'Farland's *Pathogenic Bacteria*) printed in 1896:

"That the gonococcus causes gonorrhœa there is *no reason to doubt.* It is constantly present in the disease and *very frequently* in the sequelæ, and, so far as can at present be determined, is never found under normal conditions."

Here only one of Koch's postulates is acknowledged as proved, the fourth is doubtful and two ignored.

"It might be argued from the different clinical pictures presented by the disease (diphtheria) as it occurs in man and in animals, that they were not expressions of the same thing. A careful study, however, together with the evidence adduced by Roux and Yersin, who found that when the bacilli were introduced into the trachea of animals opened by operation, a typical false membrane was produced, and that diphtheritic palsy often followed, and of hundreds of investigators who find the bacilli constantly present in the disease as it occurs in man must satisfy us that the doubt of the etiological role of the bacillus rests on a very slight foundation."

Did the experimenters named succeed in reproducing infection? Was the false (?) membrane produced by the bacilli or by the products of the bacilli, and was it *the* false diphtheria membrane?

Moreover, Prudden's twenty-four cases of diphtheria without the presence of the diphtheria bacillus, but the presence of the streptococcus pyogenes adds very serious complications to the question.

Dr. Bissell, of Buffalo, quoted in *The Proceedings of the Sanitary Conference of Pennsylvania*, at Harrisburg, 1896:

"It is generally admitted that it is often impossible to make an accurate diagnosis either from a clinical or anatomical lesion or from both. There are no constant differences that separate the simple non-contagious forms of inflammation from the diphtheritic type, and it is a very small proportion of cases that an early and reliable diagnosis can be reached by any data obtainable. In Willard Parker Hospital 30 to 50 % were found to be non-diphtheritic."

Again (McFarland):

"There is no clinical difference in the picture of the throat lesion by the two organisms, and the only positive method of diagnosticating one from the other is by means of a careful bacteriological examination."

Again:

"All pseudo-membranous diseases of the throat are not diphtheria . . . . some result from the activity of the pyogenic organisms alone."

Again:

"The diphtheria bacillus is found in healthy throats of caretakers of diphtheritic patients."

It remains then for the contagionists to show that the pseudo-membranous exudation was the real diphtheritic body. Here again the disease is diagnosed by the presence of the microbe. It is not surprising, after these definite statements, that such articles as the following appear in the medical journals:

"An acknowledgement that the whole science of bacteriology is reared upon an exceedingly shaky foundation, for if the difference between true and false diphtheria can only be told by the microscope, the *symptoms, course* and *sequelæ* of the two *being the same,* it is evident that the so-called bacilli of diphtheria are not a cause of the disease nor even an incident."

Again:

"The causative relationship of Koch's comma bacillus has been established chiefly by its constant attendance upon the affection and its absence in all other diseases. The culture of the organism outside of the body and its injection into the various animals usually experimented upon have not given wholly satisfactory results." (Chapin, 1888, *The Role of Ptomaines in Infectious Diseases*).

Has any advance been made since this statement was made?

In this connection, several interesting questions arise which demand exact answers.

Is the "facultative" organism a creature of the scientific imagination? This creation reminds one very much of Newton's "fits of easy reflection and transmission." Whenever the advance of science requires the addition of hypotheses of this character, our theory is rapidly approaching the state of inanition and death.

The selection of a susceptible animal for the inoculation of bacilli in a given disease is objectionable, unless it is shown that in such animals other causes will not and cannot produce the same effect. To illustrate, rabbits and guinea-pigs, when domesticated, are very susceptible to tuberculosis; now if such animals are to be used as tests for the communication of tuber-

culosis by its bacilli, it is reasonable to demand that the experimenter must show that tuberculosis cannot be produced by ordinary irritation without the presence of the tubercle bacillus.

Can the results of experiments on guinea-pigs be predicated as results of unperformed experiments on men? Can the results of experiments on one man be proclaimed for all men? The father is thrown into violent purging and vomiting with urticaria from eating strawberries; the son revels in them without detriment; the same son is thrown upon a bed of sickness by eating salt mackerel; the father has it for breakfast every morning and wonders why the son cannot taste it. A professor of chemistry, a former President of this Society, whom we all learned to reverence, used to show the amount of carbon exhaled from the lungs in twenty-four hours on a piece of paper; by the same means he exhibited the amount in the air which is necessary for the destruction of life, saying, "if there is this much in the inspired air man must die . . . . but he does'nt." Nature is a wary watcher, of unbounded resources and infinite kindness. The professor had neglected to state the time of exposure.

However much we may regret it, the *experimentum crucis* of the whole theory is the characteristic reproduction of a given infectious disease *in man* himself. When learned men have offered to subject themselves to the test for the benefit of mankind, their offers have not been accepted, at least in the case of cholera. When reporters of newspapers have performed the necessary experiment, methods of minifying the results have been found.

Can the specific organism be found in an animal without the disease? Prof. Dieulafoy (*Lancet*, May 11, 1895) has discovered a latent variety of pharyngeal tuberculosis, the bacilli being present with no clinical manifestation of the disease. The presence of the diphtheria bacillus in the healthy mouth without the production of diphtheria points in the same direction. One ought to be willing to take the position that the specific bacillus may be present and the disease absent, and yet the bacillus may be the cause of the disease in cases where the two are synchronous, because there are so

many modifying circumstances which may prevent the bacillus from exerting its deleterious action. The first postulate of Koch has sometimes been stated unfairly, I think—"The bacillus is never found in man without the disease." It is obvious the two statements are entirely different. The introduction, however, of the idea of "latency" is dangerous, just as it was in the old theory of heat, a convenient subterfuge to cover up a weakness in theory.

There is another question connected with this subject which is of prime importance. Is the antitoxin action a necessary corollary to the theory of infection as it has been stated? If it is, then the failure of the antitoxin treatment acts as an argument against the theory itself. The results in nearly all cases of this treatment have been at least disappointing. The position has been taken that diphtheria, tuberculosis and tetanus have been *cured*, shall we say, but these statements have been made by those who have committed themselves unalterably to the theory, and therefore have less value than if given by disinterested judges. In reference to the cure of hydrophobia by inoculation, it is well to observe the recent report by Prof. von Frich, of Vienna, who found that dogs could be rendered refractory to the rabies of Pasteur, but died from the rabies of the street dog. If these experiments stand investigation, it will result that the cases of hydrophobia reported are either not genuine or that the disease is non-existent. (Frich's original paper not seen; given in the paper of Dr. Wm. T. Walker, of Lynchburg, Va., in February number of *Virginia Medical Monthly*).

An effort has been made in the accompanying table to show what probability attaches to the eight points there indicated for the diseases named. It is not intended to show what the belief of the profession is, but it is merely an indication of the weight of the arguments after a recent examination of the evidence on each point. Some may think that it is far from the mark; it represents as near as can be indicated in so small a compass how far the writer is willing to go, and if he errs, it is to the advantage of the theory, for it is a fascinating one, and one would like to see it established. It will be observed that

	I	II	III	IV		V	VI	VII	VIII
				Lower animals.	Man.				
Anthrax	x	x	x	x				x	
Anthrax, Symptomatic.	x	x	x	x					
Antinomycosis	x	x	x		x			x	
Cholera	x	x	x	?			x	?x	
Cholera, Hog	x		x	x					
Cholera, Chicken	x		x	x		x		x	
Diphtheria	x	x	x	?	?		x	?x	
Diarrhœa	?								
Dysentery	?								
Dengue	o								
Erysipelas	?								
Erysipelas, Hog	x	x							
Edema, Malignant	x		x	x	?				
Farcin Du Boeuf	x		x	x					
Fever, Bubonic	x		x	x				?	
Fever, Cerebro-Spinal	?								
Fever, Typhoid	x	x	?x	?	?	x	x		
Fever, Relapsing	x			x	x?				
Fever, Scarlet	?								
Fever, Yellow	?								
Fever, Malarial	?								
Fever, Puerperal	?								
Fever, Typhus	o								
Fever, Typho-malarial	o								
Gangrene, Hospital	x?								
Gonorrhœa	x		x	?		?		?	
Glanders	x	x	x	x				o	
Hydrophobia	o?	o	o	o	o	o			
Influenza	?	o	o	o	o				
Leprosy	x?	?	?o	o	?				
Measles	?		?						
Mumps	?								
Mycetoma	x		x						
Ophthalmia	x								
Phagedena	?								
Pyemia	?								
Pox, Chicken	o								
Pox, Cow	o								
Pox, Small	o								
Pneumonia, Croupous	75%	o	x	x?			x	?	
Pneumonia, Catarrhal	o	o	o	o	o				
Pneumonia, Pleuro-	x	x							
Rotheln	?						x		
Rhinoscleroma	x	x	x	o	o				
Suppuration	?	?	?	?	?	x	?	?	
Syphilis	o	o	?o						
Typhus Murium	x	x	x	x		x			
Thrush	x	x							
Tuberculosis	?	x	?			x	?		
Tuberculosis, Fowl	x	x	x	x					
Tuberculosis, Pseudo-	x			x					
Tetanus	x		x	x		?x		?	
Tetragenus	x		x	x		x			
Whooping-Cough	o	o							
Mouse-Septicema	x		x	x		x	x		

in the diseases of domestic animals the work is more definite, and necessarily so from the freedom of experimenting, that there are several columns which are blank, and that these columns ought to contain the results of the crucial experiments.

KOCH'S POSTULATES.

(Sykes, *Public Health Problems*, 1892.)

I. The parasite must be found in every case of the disease.

II. It must occur in no other disease.

III. When obtained in pure cultures from isolated colonies.

IV. It must produce the disease in the lower animal or man in which it is injected.

V. It must be found in the tissues of the animal in which it is reproduced.

ADDITIONAL POSTULATES.

VI. If other parasites are present, proof must be given that they are not the cause of the disease.

VII. If the antitoxin action is a necessary deduction from the theory, the antitoxin treatment must be shown to be successful.

VIII. If the disease is due to the presence of ptomaines, it must be shown that these bodies reproduce the disease.

X = proved : ? X = perhaps proved : X ? = proof doubtful ? = not proved : O = failure to prove : ? O = probable failure to prove.

It is said that the bacillus is causative of tuberculosis; that the bacillus, in order to survive, to develop and multiply, must be placed in a proper soil; how is the proper environment produced? Does the bacillus produce the proper soil? If it does not, how can it be said to be the cause of the disease? Must not the cause be looked for behind the bacillus and before its approach? If the soil and the bacillus are together causative, why not say so? But if the soil is causative and the principal etiological factor, its presence may be explained, perhaps, by ordinary chemical and physical processes. This only means that the question is still *sub judice* The farmer prepares the soil; the germ of wheat is derived from extraneous sources, the two are brought together, but there will be no germination without sunshine, air, moisture and the vital principle in the

germ itself. The soil may be said to be the cause of the crop, the germ may also be said to be the cause, but the sun must be regarded as the most efficient agent in the development of the wheat. If there is too much moisture, but all the other conditions are favorable, the wheat is blighted. Is the micro-organism which constitutes the blight the cause or the result of the disease? Evidently it is only an accompaniment, and could not be called in any true sense a pathogenic germ. The cause of the disease is, if a single cause be predicated, an excess of moisture. Can a microbe, then, be said to be the sole cause of an infectious disease? The bacillus cannot find in the purely healthy human blood-cell a favorable field for its cultivation and growth; that must be sought for in the degenerated corpuscle. When one stops to think that pure air and thoroughly oxygenated blood are the best preventives for contagious diseases, it will be readily understood how we may find specific germs early in a given disease without their proving more than symptomatic phenomena. (*Times and Register*, reprinted in Brief No. 279). Hence there is another standpoint from which the subject of contagion can be viewed, and it is from this point that the people are most interested. All the experiments so far referred to have been those of the laboratory, and have an interest more theoretical and scientific than practical. It is not intended to throw any aspersions upon either the experiments or the experimenters. Emphasis of a position which exceeds in importance, from the practical sanitarian's stand point, the theory of the parasitic origin of disease, is alone desired. Admitting for the sake of argument that tuberculosis, for example, is propagated by a micro-organism, it must be remembered that there is a broad distinction between the possibility of a thing and the probability of its occurring. Questions in other departments of science may be usefully employed to elucidate this point. A distinction must always be made between the probability of a certain result when determined by a laboratory experiment and when nature repeats the experiment in her own way. She complicates matters so much by the introduction of other conditions that we are compelled always in order to determine a law to so

simplify the experiment that it is entirely different from the one we hoped to investigate. Now to claim that nature will do as we think she ought to do is absurd, for we have not repeated nature's experiment. A physicist discovers by the application of electricity to a mixture of coal and lime that he can produce a curious substance which, when thrown into water, evolves a gas which gives a brilliant white light. He repeats the experiment over and over again, and with the same result. It is a long way from this beautiful experiment to the successful introduction of the gas in a commercial way; the road to commercial success is strewn with the wrecks of fortunes, blasted hopes, financial ruin and perhaps business disgrace. Just at this point the "promotor" gathers his harvest of ill-gotten gains from those who would acquire fortune without effort. The probability of the instant commercial success of such an enterprise is practically nil, for counting has been done without the host; the conclusion has been drawn from insufficient data. Is there any difference between this case and that in bacteriology when large conclusions are drawn from the results of laboratory experiments. The microbe is obtained, proper food supplied, the temperature kept constant by the most delicate of modern appliances; light is furnished of a kind and quantity which has been determined to be best by previous laborious investigations, all extraneous and hurtful objects are removed, and after the culture has been obtained by the most careful methods, an injection is made in a guinea-pig, a rabbit or some animal other than man. Now is it not a very large conclusion to say because, under these circumstances, success has been obtained, therefore, man does get tuberculosis by inhaling the dried sputa of tuberculosis from the dust of the street? The same microbes in the street dust are like babes in the woods, exposed to a thousand woes of which we wot not of; some we do know: in the heat of summer they perish from the heat; in the cold of winter do they perish from the cold? Bright sunlight blights their feeble power of reproduction; if light and heat are absent, moisture may be fatal, and if they even then escape, they may perish from lack of

proper food. What are the probabilities of the disease being communicated in this way ?[1]

The problem of contagion now becomes a much more complicated one. If the disease is due to the presence of a micro-organism, it must be sufficiently vigorous to withstand all adverse influences from birth until ready to start upon its travels. Among these adverse influences are light, heat and moisture in excess or defect. It must be carried by some medium to the person to be infected, or the proposed subject of infection must be brought to the microbe. During this period its vital forces must not be lowered to a sufficient degree to prevent reproduction or to produce death.

If the disease germs are carried by fomites, it must be shown that they are present *in transitu*. Has this been proved for tuberculosis, for example ? The experiment of Cornet (*Berliner klinische Wochenschrift*, May 20, 1895), by the intraperitoneal inoculation of guinea-pigs, showed that the dust collected from 50,000 litres of air contained no tubercle bacilli. Making the case as bad as possible, it was shown that the air collected from closed rooms full of consumptive patients contained no bacilli, provided the sputa were kept moist; the dried sputa were necessary. The expired air of consumptives contained no bacilli. Air forced with considerable velocity over moist surfaces containing bacilli showed none. The universal diffusion of the tubercle cannot therefore be accepted, and regulations founded on this notion of general aerial distribution can only produce hardship without benefitting either the patient or the cause of hygiene. To deny the conclusion, the method of experimentation must be shown to be defective, the experimenter unskilled or his deductions untrue. In the Report of the State Board of Health of Pennsylvania, 1890, page 564, speaking of consumption, a writer says:

"This expectoration *swarms* with these microscopic organisms. Their tenacity of life is very great, and as long as they retain life they are capable of reproducing their kind in the lungs of a *healthy person*. Drying

[1] "Sunlight kills the tubercle bacillus in from a few minutes to several hours." "It does not develop well in the light, and when its virulence is to be maintained, should always be kept in the dark" It has an "indisposition to develop outside the bodies of animals." It is extremely sensitive to temperature. (McFarland.)

does not *in the least* impair their vitality. When the expectoration dries, it rapidly becomes pulverized, and then these germs float about as fine invisible dust in the air."

The writer evidently believes in general aerial distribution by diffusion. *Per contra*, Dr. Mays, in his address in 1890, quotes the experience of the Consumptive Hospital of Görbersdorf in Germany, that 10,000 consumptive patients walked the streets of the town and commingled with the inhabitants in twenty years; the mortality among the people is 50 % less since the establishment of the hospital.

It must be taken into the system in opposition to the efforts of nature to prevent the entrance. Let us illustrate the difficulty micro-organisms have to reach the air cells of the lungs. A few hundred of organisms to several thousand are inspired every hour according to the nature of the surroundings. Lister knew how difficult it was for these bodies to reach the air cells. Tyndall's classical experiments showed that the expired air was optically pure. What had become of the microbes? Grancher showed that there were no bacilli or spores in the air expired from consumptive patients. An examination of the respiratory tract by Hildebrandt, Thompson and Hewlett showed that all germs had disappeared from the inspired air before reaching the trachea. An examination of the entrances of the nostrils and the crusts inside showed swarms of germs, but in the healthy nose there were none further back.

It has also been proved that the nasal mucus is antagonistic or that the soil is uncongenial. A pure culture of the *bacillus prodigiosus* was placed upon the nasal septum well within the vestibule. Cultures were made every few hours from this spot with the result that at the end of two hours no growth resulted from the sample taken. (St. Clair Thompson and R. T. Hewlett, *London Lancet*, Jan. 11, 1896; Critique, *Pop. Sci. Monthly*).

If entrance be effected, it must find a proper nidus for its development, growth and reproduction. It must not only enter the system, but reach the particular organ which is susceptible to its action. The bacilli of cholera and pneumonia cannot reach their seat of action when passed through an ex-

ternal wound. Even now it must be able to withstand the efforts of nature to repel or destroy it.

Whatever may be the cause, the fact is undoubted that different persons have different susceptibilities to infection. Nature protects us on every side. The microbe may elaborate a poison which may destroy the living organism itself. The first invaders may establish an environment which is proper for a successor which is not pathogenic. How can the fact be explained that "millions of the comma bacillus may be taken into the stomach without development of the symptoms of Asiatic cholera." (Klein, *Epidemic Cholera*).

It follows from the foregoing considerations that all diseases are not equally contagious. The same disease is not equally contagious under the same apparent circumstances. The same disease is not equally communicable to different persons. The same disease is not equally communicable to the same person at different ages. Hence all contagious diseases are not to be subjected to the same sanitary regulations. Those adapted to cholera, small-pox and yellow fever are obviously improper for tuberculosis, typhoid and scarlet fever. The ordinary contagious diseases, under ordinary circumstances, are not so very contagious. Admitting every claim for the theory without further argument, little more is known than we already knew from clinical and epidemiological investigations. Scarlatina does not affect all who are exposed to it. It does not affect all the youth who are exposed to it. Boards of Health have more to do with the probability of contagion than the possibility. Do not permit the Washington authorities to refuse to deliver your mail in the first story front because there is a case of scarlatina in the fourth story back. All clinical observations show the absurdity of this procedure, and yet it was practised on a next-door neighbor by orders from Washington. Mail from the house was put in the out-going box and the head of the family had permission from the local Board to go to Barnum's circus, but the postman was forbidden to deliver his incoming mail. It is such absurd restrictions as this that will, if persisted in, bring the whole sanitary machinery into well-merited contempt.

In a paper read before the Pathological Society, London,

Nov. 23, 1893, by Dr. Dowson, of Bristol, the incidence of scarlet fever is given for his city during 1892 as .64 per cent; while during an epidemic in the same place in 1863 the incidence was about 4.5 per cent. He regards the incidence as about 5 per cent taking the general population. It may be inferred from this that the immunity is very great. Looking at the subject in another way, Dr. Whitelegge gives 96 per cent as as the proportion of persons attacked up to the age of 15. After 15 the susceptibility to scarlet fever almost disappears, reaching not more than 2 per cent in the fever hospitals. There is, therefore, a natural immunity and an acquired immunity the cause of which does not enter into the present discussion. These facts are mentioned not because they are not well known, but as a caution to Boards of Health and others who are apt to let their fears take control when an emergency arises. They are introduced as the text of an experience which caused great alarm and the unnecessary expenditure of a great deal of money which could have been expended in better ways.

On November 19, 1870, I was called to see in consultation a very sick young man in one of the dormitories of the institution of learning with which I am connected. He had been suddenly attacked with purging and vomiting while lying upon the grass about four o'clock in the afternoon. His physician who was called at once diagnosed scarlet fever. At nine in the evening we saw him; he was covered from head to foot with the characteristic eruption, was flighty, rolling his head from side to side; he could be recalled to consciousness but soon went off in a mild delirium. Six hours later he was dead. His body was prepared for burial and placed in the receiving vault of the Easton Cemetery until his parents could come from Texas. Later the body was removed to that State. At that time the college was swarming with students; three and even four were rooming together until the completion of a new dormitory. The room where the sick boy lay had five students in it when we arrived that night. After death the ordinary cleaning was done. The students were allowed to occupy the same quarters with the bedding and

furniture. There was not another case in that room nor in that building nor within the college limits. All the students had been subjected to the same conditions. They had been on the grounds over a month, had not been out of town. Our custom for years had been to isolate the patients and detail particular persons to act as nurses. During an experience of thirty years as health officer of that institution I have never known a second case to follow the first either in the same room or in the same building.

In March, 1893, and the previous February, there had been several cases of scarlet fever in Easton and one or two on the college campus. Instead of applying the methods which had proved successful for a quarter of a century—isolation of the patient and the nurse—a great furor was raised about the dreadful contagiousness of this particular fever. A demand was made that the institution be closed. There was a panic even among those who would be expected to ordinarily command their feelings. In vain was the position taken that it was a child's disease, that the incidence among young men was slight, that there need be no cause of alarm. The experience of twenty-five years was repeated without effect. The new Neopolitan sanitarian of alarm had come and the world had to be turned upside down. At last the health officer took the position that if it was so very contagious he would never agree to dismiss three hundred men to set up three hundred centres of infection throughout the United States. A compromise was effected. The institution was closed but the suspects were compelled to remain for examination and were kept under surveillance. They were twenty-one in number. A contagion hospital was established for the three who were suffering from the disease. The rooms which had been occupied by these were filled with live steam, fumigated, carpets burned, etc. The cleaning was carried on for three weeks at an expense of five hundred dollars. A solution of bichloride of mercury was used for all the cleaning, whether the rooms had been occupied by suspects or not.

Now as to the outcome of the excitement. A close watch was kept on the future course of the twenty-one suspects. I

communicated with them after their return and with their family physicians. The result of the examination was that there was not a single case of scarlet fever among them, with possibly one exception, about which the home physician writes as follows: "I believe Mr. B. had a slight attack of scarlet fever when he visited home two months ago." The others reported neuralgia, quinsy, bilious attack, sore throat, one that he had had scarlet fever two years before at the college, which was true, but the majority that they were entirely unconscious of being ill at all. The cases in the hospital did well and were discharged in due time. Since that time there has not been a single case of scarlet fever in the institution.

But let us look at this question in another way. These young men had used the hymn books in the Chapel, the books in the various libraries, the magazines of the reading room and their own books. Of course it was impossible to disinfect books thoroughly without destroying them. This was not done as libraries of forty or fifty thousand volumes cannot be replaced in a day. Now what is the only conclusion which can be drawn from these facts? That a mistake was made in diagnosis? This certainly was true in a large number of the cases but not in all. That scarlet fever is not so very contagious after all? I think that this is the proper conclusion, and that the application of the results of a laboratory experiment to the outside world is a dangerous proceeding. The objection may be made that these few cases do not prove that scarlet fever is not contagious; the proposition is granted with the understanding that no more will be required of the high contagionists than they require, but that just as much is required to prove one proposition as the other.

The claim that the reduction of mortality rate is due alone to the discovery of specific bacteria is not claimed by the scientific bacteriologist, but generally by his followers who have never seen a micro-organism and whose conclusions are far in advance of those who have a real knowledge of the subject.

The practical measures of sanitation which have come into existence in the last twenty-five years would have reduced the mortality if the theory of the micro-organic origin of disease

had not been adopted. Bacteriology has added enormously to our resources and has been a very important factor in reducing the rate of mortality. (Sternberg in *Pop. Sci. Monthly*, April, 1896).

ADDRESS IN OBSTETRICS.

By ISRAEL CLEAVER, M. D.,
OF READING.

Mr. President and Members of the Medical Society of the State of Pennsylvania: I have had the treasured privilege of being a member of your organization since 1873. I have been present at a number of its annual sessions, and enjoyed the occasions fully as much as the average member or attendant.

The first advent of a young physician into an assemblage of the great and noble in our profession is inherently accompanied with feelings that hold in abeyance deliberative tendencies, and he is wholly engaged in absorbtion. Such at least was my experience.

But with familiarity, hero-worship vanishes, reverence gives place to respect, and this is not an obstacle to the exercise of reflection or criticism. Hence, presently, I became time and again impressed with the fact, that after the ending of a session, on the return home and for months after there was more general conversation about the *social* features and entertainments or some question of polity, than the scientific exercises.

I do not say that the scientific work had no account made of it; on the contrary with some it was their only theme, but I do say that if it made any impression at all, it was of comparatively few days duration with the majority, while other matters would be recalled for months afterward.

Looking backward, twenty years of my life with this Society, the papers on scientific questions that I can recall from unaided memory are few, and I submit that those of you who can make the same retrospect, will be conscious of a similar experience. With none of the stated topics prescribed for these occa-

sions, does the above charge,—to my thinking,—hold more pre-eminently true than with that of *obstetrics.*

The organizers of this society, in their judgment, seemed to think that the proper manner of presenting these stated papers, was in the form of *reviews* of progress, for the year previous, and whether those to whom was committed such annual histories of obstetrics, deviated from this practice I cannot discover. But in 1871 the adoption of a rule prescribing this order, specifically for papers on obstetrics, conveys to my thought a covert reprimand for a delinquency of this kind. Nevertheless within a very few years thereafter we find papers on obstetrics breaking from this mooring. Apologies and excuses for the breach, and sometimes for the temerity of writing anything at all, prefix most of them, and all being good, I beg leave to appropriate them collectively, as being applicable to me as much as to any of my honored predecessors.

My deviation is not exactly in their line, which generally was a study of some select feature of obstetric science, or else a division of honors with gynecology.

If it is possible to make a paper in obstetrics, as much to be remembered as any of its kindred, I respectfully submit that the plan probably may be found in a review of the subject as presented to this society in the past one or two decades.

Besides, every physician who has the enterprise to attend these yearly meetings, has kept pace with obstetric progress of any value by means of his journals and magazines, and to rehearse the same here would be to him a "thread bare" story. But the unearthing of what has been considerably forgotten *may* be something new.

Since 1873 the questions treated in the various papers in obstetrics range as follows:

Vaccination during pregnancy, 1. Prediction of sex by auscultation, 1. Forceps, 5. Cephalotripsy, 1. Cæsarean section, 4. Crede's method, 1. Version vs. forceps, 1. Rupture of perineum, 5. Post-mortem delivery, 1. Placenta-previa, 8. Post-partum hemorrhage, 5. Extra-uterine pregnancy, 6. Electricity in Uterine inertia, and induction of premature labor, 1. Oxytocics, 2. Hastening labor, 2. Correction of position in

difficult labor, 1. Post-partum paralysis of bladder, 1. Contracted pelves, 1. Resuscitation of fœtus, 1. Suppression of milk, 1. Puerperal fever, 4. Puerperal eclampsia, 9. Diagnosis of early pregnancy, 1. Diagnosis of sex in utero, 1. Vomiting in pregnancy, 4. Laceration of cervix, 3. Abortion, 3. Asepsis, and Antisepsis, 10. Mastitis, 2. Rupture of uterus, 1. Anesthetics, 2. Symphysiotomy, 3.

I can draw no logical relation between the number of times these points were presented and their importance, nor the frequency with which they are encountered in practice. *One* thing is suggested when examining the record, and that is, that those authors loyal to their instructions, differed materially in their views of what was important. Perhaps the most unsatisfactory phase of the matter is, that *mooted* points are left unsettled without the *author's* views, new and excellent suggestions perish with the birth, and much effort is expended in seemingly no purpose of direction. Perhaps this will be more apparent by illustrations drawn from the record.

Use of the forceps is discussed five times. One author after reporting the fact of *increasing* use of the instrument being prevalent, names several justifiable and beneficent reasons therefor. Another admits this increased frequency of use, but deplores it, styles it an abuse, and calls attention to the array of lacerations of the perineum and cervix uteri, and other ailments left in its wake. No reconciliation of these opposite results appears *anywhere.* Others differ as to the *indications* for its use. Obviously such handling of the subject does not confirm belief, unify practice, or scarcely convert an old practitioner from his custom, while a young one is either confused or twisted to skepticism as to the value of authorities.

The paper on *cephalotripsy* proves admirably its preference to *craniotomy*, and yet how small a percentum of practicing accouchers possess a cephalotribe and how many perform craniotomy. Again, several gentlemen discuss the relative value of Cæsarean section and craniotomy. Would the discussion be different in conclusion, if cephalotripsy were considered instead of craniotomy?

One contributor seems to me to have had a thought similar

to mine, touching the *scattering* of forces by our present method, and if ever aware of it, I had forgotten it, and not until in the preparation of this paper did I discover this "kindred spirit" who tried to focus effort; and in intent anticipated the talk of this moment by a number of years.

He in order to measure up to the requirement, sent out as he says, a circular letter to over two hundred recognized obstetricians throughout the United States. This circular embodied the following questions. 1st, "Have you discovered during the last year anything pertaining to the obstetric art which you regard as new?"

2nd, "Have you had any remarkable recovery of a patient in which treatment, either mechanical or medicinal, was entitled to credit?"

He continues—"It is highly gratifying to me to be able to state, that in answer to the above I received over *thirty* communications, a goodly number of which were reports of cases of interest, and which had not been given to the profession and had occurred during the last year."

These reports were truly valuable, but about half pertained to gynecology and I submit that the latter is not a department of obstetrics, and while they sometimes overlap each other in their exercise, they do so no more than when a case primarily medical, becomes typically surgical. I say this, not ignorant that high and respected authority asserts the contrary.

Another contributor, instead of ranging over the field, culling hither and thither, concentrates his duty on the subject of *placenta previa*, describing a method of treatment whereby delivery may be accomplished by the vertex, instead of version, the more common practice.

He claims that by his plan, the life of the child is less jeopardized, and so well does he present his theme that conviction, it seems to me, should be prompt and forceful.

This is one of the few papers I remember since its delivery. It is twice alluded to by subsequent essayists, but the majority of those who heard it have forgotten it, as I know by query.

Puerperal eclampsia, though a subject in a number of papers, is still a mooted question both as to etiology and treatment.

A unique feature brought forward in this connection is, that the ratio of susceptibility to this malady, as between blondes and brunettes, is as 1 to 9. Would not further inquiry on this point be at least interesting?

Report has been made by some papers of measures and expedients that would seem to be of much value, yet subsequent reviews show either that they could not be popularized or were too premature for the appreciation of the average practitioner. For instance: One gentleman states that the rate of the fœtal heart is higher in a girl than a boy, which is a conceded fact. Further, that the average size of the male fœtus is larger than the female, also not denied. From this is made the deduction: *the larger the volume of the fœtus, the slower the pulse rate*, and, therefore, the rate of the fœtal pulse may be a criterion for the induction of premature labor in cases of disproportionate large growth of the fœtus. This, at first blush, seems merely a fine-spun theory, but such it has not been proved to be, and is one of those points of precision not to be too lightly cast aside.

The remarks on *ectopic-gestation* show a unique continuity of progressive teaching almost as regular as though the work of *one mind*, and yet my table shows the record of six different authors.

The first, dating back twenty-three years, discusses it with an apparent feeling as though emerging from darkness into light, relative to this topic. He believes the points of diagnosis are being made more clear, but is divided in the matter of treatment between galvanism and gastrotomy. This, of course, before actual rupture occurs. Ten years elapse ere another comes before this Society, attracted by the accident, and he initiates the matter of electrical treatment according to the method of Rockwell, and in very favorable words. A small lapse again occurs, as though this method were on trial, and then another gives his voice in its favor. Speedily follows one whom we all regard as a safe authority, and while he has good words to speak in its behalf, with cautious discernment he says he thinks abdominal section will soon be preferred.

The next following, with but a year's interval, seems poised

on the dividing line of decision, for while in lively measures he recounts what is claimed for the faradic current in this exigency, he tempers his proclaim with these words: "Notwithstanding this positive and definite counsel, coming from a source eminent enough to constitute an authority, more than one dissenting voice has been raised, vehemently protesting against the use of electricity in extra-uterine pregnancy. An investigation into the secondary dangers, as well as into the after-condition of the health of the woman upon whom electric fœticide has been performed, is of paramount importance in settling the question of electricity *versus* exsection."

Two more follow, one on the heels of the other. The first, with uncertainty to be read "between the lines," says the trouble is apparently on the increase. Electricity is not so much thought of and surgical proceedure prevails. The second but echoes the words of his predecessor.

I submit that this is a beautiful illustration of the mutations to which our science is subject, and yet without which progress seems impossible. But it is also the *only* subdivision of the obstetric subject that shows this continuity of treatment at the hands of the method in vogue in this organization.

For asepsis and antiseptics in obstetric practice, as their use is presented (if you eliminate therefrom hospital practice), it seems as if *pro* and *con* had each other by the throat, while decision stands by, inactively looking on.

By this time, gentlemen, I suspect you think I am an advocate for tearing to pieces that which our fathers, instructors, and other superiors founded in their wisdom, and that this paper is largely tinctured with the spirit of the iconoclast. You may possibly quote against me, "it is easier to pull down than to rear." I admit that such construction may be deduced from what has been expressed, but I appeal to your several judgments that if what has been portrayed is correct, and which I feel no one can dispute if he review as I have done, then is there not much in this system that savors of "as one that beateth the air?"

I believe that obstetric study, while as full of intricacy as any of the other stated branches annually introduced here, is not

subject to the rapid diversities of changeful progress as they, neither has it so many to make. In the matter of discovery and improvement, more specifically related to medical and surgical practice, it has been so rapid, wonderful and of vast strides in the more recent years that contemplation thereof affects the intelllect, much as does the kleidoscope the vision.

I think that my predecessors have wrought up to their requirements, and many of them displayed "Saul"-like proportions in their sphere, and yet I have it in my thought that the obstetric phase is not as catching to the ear as other matter wont to be listened to on these occasions.

Of course, after such questioning of your usages, you have a right to demand some substitution on my part, and still more, that it be better than that which I have seemed to put under ban; otherwise, what I have said may justly be called only cavil.

With such power at your hands in view, and especially in this presence, I address myself to this task in any spirit but that of confidence, and certainly not with presumption. Allow me, therefore, to submit as a plan for the future presentation of obstetrics in this Society, *section work*, modified as circumstances or choice may determine. To describe a method now in mind, let me again quote from an essayist brought into use previously in connection with *ectopic gestation*. You will remember, he says: "An investigation into the secondary dangers, as well as the after-condition of the health of the woman upon whom electric fœticide has been performed, is of paramount importance in settling the question of *electricity versus* exsection." For example, let there be named one, or a committee of more than one, to whom shall be delegated the duty of directing research in this line. Let this research be made by the hands of those best fitted by nature and opportunity to execute the same, and selected according to the judgment of the directing center. I believe it would be advantageous if these several parties were cognizant of their mutual relations in this work, and held frequent correspondence with each other, or even had appointed assemblings together to compare work and endeavor to harmonize differences or solve reasons

for such difference. Would not unification result, instead of the antagonisms so often displayed in our professional inquiries, and progress be accelerated?

Or, let this directing head issue some inquiries in like manner with him, also previously noted, who expressed himself "much gratified" at the result. Still again, when the author of a paper introduces something new, whether original or not, and it appears of value, instead of its being treated as "seed by the wayside," spirited into forgetfulness, let this direction give it issue into proper channels for confirmation. Likewise, this head center may be made the avenue through which an individual investigator may obtain helpers to secure increased area for operation and a multiplying of effort. Other lines of work naturally suggest themselves, but my allotted time has expired and I forbear.

Gentlemen, after one year of such work, collected and arranged for presentation at our annual meetings by appointed direction, think you not that the gathering will be that of larger and heavier sheaves than heretofore?

ADDRESS IN MEDICINE.

By A. K. MINICH, M. D.,

OF PHILADELPHIA.

Mr. President and Members of the Pennsylvania State Medical Society: According to the common usage, the Address in Medicine is occupied with such improvements in the science and art and such original contributions to medical knowledge, as may have appeared through the year. In considering the topics which the traditions of this position as well as the By-Laws have enjoined, I am quite in agreement with my immediate predecessor, that a resumé of the progress made in the various departments of medicine has been so much the object of the literary activity of the profession throughout the year, that a repetition of these subjects would be a mere work of supererogation. I have, therefore, taken up for consideration a practical topic, of great moment, as I conceive, to the present position and future well being of the medical profession. I ask your attention to the subject of the interdependence of the various organs of the body as an influence that should be more predominating in our professional work, than at present is the case.

In that fable of Esop, depicting the sad consequences of the revolt of the other members of the body against the belly, there is a moral somewhat applicable to the present state of the medical profession. It will be remembered that the belly's severance from all associated organs proved disastrous, thus illustrating the great truth that the several parts and functions of the body are so united in a common purpose and are so connected by a mutual interdependence, that for the due performance of the whole mechanism there is required the simultaneous co-operation of each and all of its constituent parts.

A remarkable increase of specialities has been a feature of the medical practice of our time; but our activity in this respect was far surpassed by the ancient Egyptians, of the time of Herodotus, who had special practitioners for every conceivable malady. Subsequently, but so remotely as the Celsian age, Roman practice was signalized by a similar development in the number and variety of doctors, who treated of every condition that could be made the subject of a distinctive nomenclature.

It cannot be alleged that this was a normal growth based on actual requirements—for in the most ancient of the Hippocratic writings, the influence of diatheses and of constitutional states in the production of local diseases was distinctly recognized. There was, also, no warrant in the writings of Celsus for the remarkable extension of methods of special practice in Rome, but in the capital of the Roman World, as in Egypt, this was an outgrowth of the commercial spirit, and was an evidence of a decadent state—the too eager rivalry in the ranks of an overcrowded profession.

The modern expansion of specialism had its origin in the impulse given by the cellular pathology to the doctrine of local diseases, as compared with the influence of constitutional states. In fact the cellular pathology takes note chiefly of the local morbid process, and refers the systemic state to extension by contiguity of tissue, or to reflex impressions proceeding from some centre of pathologic influence. Whilst it is unquestionably true that the cultivation of special fields of practice has greatly contributed to advance the science and the art of medicine, are there not reasons for fearing that the commercial spirit is developing out of proportion to the real scientific needs of the profession? Is it not to be feared that the keen rivalry of occupation in a redundant body will tend to debase the aims and lower the standard by which professional conduct has, hitherto, been judged?

One of the last utterances of a distinguished gynecologist, lately deceased, was concerning the value of the operative work in which he, himself, had been chiefly engaged during his brilliant and successful career. His estimate, which was in

the nature of a judicial summing up of his extensive experience, was a distinct impeachment of its character and value. When the deliberate judgment of a specialist, after life-long experience, is expressed in such terms, the time has come when we should take up anew the question of local or constitutional treatment, and strive to determine when systemic measures should be invoked, or where local and operative treatment should be instituted.

Let me adduce some facts in illustration: There are so many examples of the mode in which a common influence affects many and often remote parts, that it may be useful to call attention to them, how familiar soever they may be, to show to what extent the interdependence of organs must be taken into account in our therapeutic measures. Although, as I have said, the cellular pathology has had much to do with the development of local treatment; on the other hand, the growth of bacteriology must necessarily modify some of our views on the relation of local to constitutional states. When minute organisms were supposed of themselves to be the immediate cause of morbid states, the main recourse in the treatment, and the logical method of therapeutics had been the use of local measures—of germicides—to destroy them, and of agents to remove the local and immediate consequences of their presence. But when by careful cultivation and filtration experiments and subsequent trials on animals, it was discovered that not the parasites themselves, but some diffusible poison produced by them was the cause of the morbid complex, it became evident that we had to deal with the systemic effects due to the absorption of the poison and its subsequent action on the parts for which it had an affinity. Who has not witnessed the varied nervous phenomena, the pulmonary, cardiac and digestive troubles succeeding to the local morbid action in a case of influenza? In the course of the physiological growth of the organisms in influenza, a poison is produced, which absorbed into the blood is distributed, setting up various disturbances according to the character of the function acted upon. Diphtheria we also know is caused by a microbe, which if destroyed at its origin, may have but little after effect,

but continuing its normal growth according to the law of its development, produces a poison of most depressing character, which acts on remote parts. Tetanus is a capital example of the same kind of action. Its peculiar germ developing in the wound produces a poison having an action on the spinal cord similar to strychnine. The treatment by antitoxin is an application of the law of physiological antagonism, not unlike the opposition of actions found to exist between various poisons from the vegetable kingdom. The development of typhoid fever is a striking illustration of the mode in which a general morbid complex arises from the local deposit and growth of a pathogenic organism. Reaching the intestinal canal by water or food, the organism finds a suitable nidus in the ilium, and there growing sets up some lesions, and produces the typhoid poison which infects the system through absorption and diffusion by the agency of the blood. Another striking illustration of the same etiological mechanism is sick-headache, although the successive steps in its evolution have not been so clearly made out. What is sick-headache or migrain, but the action of a poison, in its nature not unlike opium, which is absorbed from the surface of the intestinal mucous membrane, where it was produced by some special organism? This organism reaching the intestinal canal finds a suitable nidus in a catarrhal state of the mucous membrane, and in the process of its growth elaborates the special poison which affects the system in the way so well known. From these examples it becomes evident that as regards the actions of germs, the remote and systemic results are more important than the local actions.

To further illustrate the interdependence of organs, I beg to submit some familiar examples: When a patient presents himself it is a part of the routine work of the physician to determine the organ or organs affected by making an exhaustive, or at least, careful and thorough examination of the whole mechanism. The manner in which the local disease is modified by other organs is ascertained, and the reality of the morbid complex is referred to the standard of efficiency possessed by the organic whole. It has been said that physicians differ

not so much in knowledge and in native endowments, as in the care and thoroughness of their examinations, and mistakes are due not so much to ignorance as to carelessness. Genius has been described as the ability to take pains.

The question to be determined in the study of many ocular maladies—those for example, due to muscular troubles—is this: shall the eye distress, the headaches, vertigo, etc., be treated by glasses and other local measures, or shall a proper hygienic and medicinal course be used to correct these evils. Ocular deviations, pupillary changes, optic neuritis, etc., are often due to tumor of the brain. An early recognition of albuminuria is often made by the discovery of characteristic changes in the retina. Mental disorders arise from insufficient excretion and depuration by the kidneys. If sick-headache may have its origin in the work of a microbe, it is equally true that mental disorders are caused by insufficient excretory activity in the portal circuit. Hypochrondriasis and melancholia have been caused by abscess of the liver, and the surgeon rather than the alienist, required to treat the cases successfully, but the hepatic disease is quite masked by the dominating mental condition, and has usually escaped detection. On the other hand, a basilar, cerebral mischief may cause glycosuria, and probably atrophy of the liver.

In an early stage of some cases of aneurism of the aorta, the most pronounced symptom is spasm of the larynx with a tempestuous and croup-like cough. The aneurism in the course of its formation projecting as it may do from the under surface of the arch of the aorta, impinges on the left recurrent laryngeal nerve, thus causing spasm of the laryngeal muscles. It has been said when persistent pain occurs without apparent cause in the upper chest and extends thence to the shoulders, "suspect aneurism." To this may be added when a croupy and spasmodic cough occurs in a subject of middle age, for which no explanation is offered, "suspect aneurism of the aorta."

Heart troubles, especially "heart failure," often have their origin at remote points, and what was supposed to be an affection of the heart is really a reflex. An intermittent and ir-

regular pulse is frequently due to stomachal derangement as everybody knows. A slow pulse may mean not an affection of the motor apparatus, but liver disease, and a pulse rapid and irregular, renal mischief. An asthmatic seizure may be significant of uremia, and profound unconsciousness may be due, not to cerebral hæmorrhage, but acetonemia. Under such circumstances to treat the cardiac symptoms, and ignore the causative disturbance, is adding insult to injury. "Weak heart" is a term that covers a multitude of sins, and "heart tonic" too often is a remedy that imposes two burdens for one that it removes. An habitually weak circulation may be due to chronic metallic poisoning. To relieve it, the poison must be excreted, after which it will take care of itself.

Many nervous diseases admirably illustrate the interdependence of functions of organs. It would be quite impossible for me at the time at my disposal, to do more than suggest several points for consideration. Amongst the constitutional states affecting the integrity of brain and nerve, the most important in all aspects is syphilis, and this is responsible by way of syphilitic arteritis for many cases of cerebral hæmorrhage and hemiplegia. There can be no doubt, timely treatment would save many cases of this character. Increasing experience has pretty well established the specific origin of locomotor ataxia, and to the same source must be attributed a large proportion of the cases of that melancholy disease, dementia. Another example of the remote origin of a nervous affection is neurasthenia. Does any one effect a cure by treating merely the nervous disease? After an unvailing round of nerve remedies some unexpected event, some other and well defined malady makes a profound impression, under cover of which, so to speak, the neurasthenic symptoms disappear.

Gynecology furnishes many examples in illustration of the same truth. There is no department of medicine, indeed, in which the interdependence of organs is more conspicuously manifest. For the time being the brilliant procedures of the operative gynecologist have quite overshadowed the methods of ordinary practice. When a phantom tumor has been the subject of operative treatment, it would seem necessary to look

from the local to the general state. It is probably true, as a distinguished gynecologist already referred too not long since asserted, that many instances of laparotomy might have been avoided. The "personal equation" goes for much, suitable hygienic and medical treatment might be expected to do more, and nature might accomplish the rest.

The relation of local to constitutional states, and the manner in which treatment is thereby affected, is further abundantly exemplified in the diffusion of specific infection. Although it is no doubt true that gonorrhea is a purely local affection, it is becoming more and more clear that to an extension of the specific inflammation to the uterus and tubes must be ascribed many of the derangements leading to the more troublesome of women's diseases. No doubt, this is also largely responsible by extension by contiguity of tissues, for vesical, uretral and renal diseases in both sexes. Long after the evident local symptoms have been apparently cured, catarrh of the bladder, of the ureters, of the pelvis of the kidney, and of the body of the kidney slowly develop. In a more distinctly constitutional sense, syphilis is a cause of remote, obscure and serious structural alterations. Although it is well understood that the poison of syphilis is becoming milder in its local manifestations, and more amenable to remedial measures with the progress of time and the improvements in hygiene, it is partly in consequence of this fact that the treatment is often inefficient, the infection penetrating to the organic substratum, and subsequently being spread indefinitely by the methods of heredity. The very mildness of its manifestations constitute one of its chief dangers. Unusual and unsuspected sources of poisoning thus occur, and the nature of a particular manifestation not being apparent, diffusion takes place amongst those totally innocent of wrong doing. There is especial need in these times for recognizing these sources of poisoning, and for applying the remedies having a special curative power.

It is an interesting fact that the organism causing rheumatic arthritis has just been discovered, and that similar organisms are concerned in the evolution of syphilis and gonorrhea lends new interest to the relationship of these affections. The

organism causing rheumatic arthritis is found in the fluids and tissues in and about the affected joints. The rheumatic attacks occurring in gonorrhea will similarly be found to arise from the local deposit and growth of a microbe, and again the specific organism of syphilis, wherever it finds a suitable nidus, will undergo its own process of development and give rise to characteristic changes. Obviously the time is approaching when relief will be best afforded by systematic treatment, and local remedies subordinated to those agents having antiseptic or germicidal powers. The mysterious changes therefore, caused by gonorrhea and syphilis, which seem now to demand local and surgical treatment, will melt away under the action of systematic remedies hostile to their respective organisms.

From the familiar examples I have given it is not difficult to deduce the moral of my discourse, which is to emphasize the importance of local or constitutional conditions and to deprecate the tendency, now so prevalent—to exaggerate the importance of local or surgical or mechanical measures unduly. Let us strive to prevent a too luxurious growth of the commercial spirit as manifest in the increasing refinements of special practice not supported by superior endowments.

PREVENTION OF TUBERCULOSIS.

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Under the light of recent investigations, the old theory of inherited tuberculosis is at best questionable. Congenital tuberculosis is comparatively infrequent. The so-called "hereditary predisposition" is now known to be a general debility, which may arise from many causes. Any weakling has this predisposition, no difference what degree of health his parents enjoyed. All weak persons, especially the young, are liable to contract tuberculosis, if the three essential factors of infection are present, viz.: debility, abrasions, and bacilli.

The Three Essential Factors of Infection.—In the convalescence of typhoid fever, for example, we have two out of the three essential factors of infection. The same factors are present in the convalescence of measles and whooping cough, viz., debility and abrasions of the mucous membranes. The third essential factor of infection is easily supplied by the millions of tubercle bacilli which can be found in almost every public building, hospital ward, railway car, and especially the modern "chariots of Juggernaut" and centres of infection—the electric and cable cars—the floors of which are regular cuspidors.

That the bacillus discovered by Koch in 1881 is the specific cause of tuberculosis is not questioned by the medical profession at the present day.

The principal routes of infection are the respiratory tract in adults, the alimentary tract in children.

Two Principal Sources of Infection.—That raw milk and air containing dried sputum are the two important sources of

tubercular infection is self-evident to any painstaking observer. The former may be held responsible for nearly one-fourth, and the latter more than one-half of all the cases of infection. The large number of cases of abdominal tuberculosis in small children fed on raw cow's milk is evidence of the importance of this source of infection.

Marfan demonstrates the great danger of infection from sputum in the following observation: Twenty-two previously healthy factory employees worked for many years together in one room. In the year 1878, two men suffering from ulcerative pulmonary lesions were added to their number, and these two latter expectorated freely on the floor. Between the years 1884–89 thirteen of the original twenty-two died of tuberculosis. Was this an accident or the plain result of a violation of a sanitary law?

Transmission of Infection.—It is quite probable that infection is often carried from its original source to susceptible individuals by the common drinking cup, the common communion cup, cigar makers, money, careless barbers, kissing, the long skirt often worn by women, instruments, especially dental instruments, which often do not get even a rinsing with water until they have been used in several persons' mouths.

Vitality of the Tubercle Bacillus.—It will withstand dessication, freezing for weeks or months, and has been found alive after being buried two years. Koch produced tuberculosis by cultures nearly two years old. It should be borne in mind that the germs in fresh sputum or secretions are more virulent, that is to say, more likely to infect and harder to destroy than after exposure to air and sunshine for several weeks.

Nuttell found not only millions but billions of tubercle bacilli in the sputum of one patient in twenty-four hours.

Measures to Prevent Infection.—It has been estimated that about fifteen per cent. of milch cows are tubercular. The question arises, how is this source of infection to be controlled? The answer is: by destroying all infected animals as soon as a diagnosis can be made, and always sterilizing or boiling milk before using.

The physician is the guardian of health in the home, and

it is his positive duty to teach his patrons preventative medicine. If he is grounded in the faith to a degree warranted by the facts, he can soon be the means of moulding public opinion so that it would be decidedly unpleasant for any *respectable* person to be seen expectorating on any floor or sidewalk. Church-going people get along without expectorating on the floors of their places of worship, and this is evidence that *all* respectable people *can* do the same.

Legislation making expectorating on floors or sidewalks a misdemeanor would control the vicious class.[1]

This rule should be absolute, forbidding any or all persons from expectorating on any floor or sidewalk.

Patients with ulcerative pulmonary lesions should not be allowed to expectorate *any* place, either out or indoors, except in vessels cantaining suitable disinfectants.

Heat, solution of corrosive sublimate 1-500, (acidulated with tartaric acid to prevent the coagulation of albumen), or carbolic acid 1-10, will promptly destroy the tubercle bacillus.

Large, well-glazed cuspidors, with perpendicular sides, surrounded, if necessary, by screens, and cleaned daily, would protect public buildings and homes. Public conveyances should be protected by suitable vessels filled with saw-dust dampened with a 1-250 bichloride solution. Patients with ulcerative pulmonary lesions should carry a small, wide-necked, glass stoppered bottle containing a small quantity of the bichloride solution for a pocket cuspidor, to be used *only* when out of reach of floor cuspidors. Handkerchiefs costing not over one-eighth of a cent each could be carried in an emergency, and burned after using.

Patients should be instructed to rinse out their mouths frequently with warm water, containing a little essence of wintergreen. This precaution to be attended too before eating, for the protection of the patient's digestion, and after expectorating, for the protection of others as well. Kissing should always be prohibited.

[1] A step in the right direction has recently been taken by the New York Board of Health. It has ordered the removal of matting from the floors of cars and steamboats, and the placing of cuspidores containing suitable disinfectants where needed.

It has been estimated that a patient in the ulcerative stage of pulmonary tuberculosis lives about two years. During this period he is a constant source of danger to his family, and a menace to society. At a cost of not exceeding fifty dollars, and a little trouble, his sputum could be destroyed, and his family largely protected from infection. Latent tuberculosis needs no precautions.

For the poor, hospitals especially designed for consumptives and for their exclusive use, should be provided by the State as a matter of humanity, economy and protection to the public health. The watch-word should be isolation for the patient who cannot or will not be governed by the necessary sanitary regulations.

The disinfection of rooms and houses in which patients with ulcerative lesions live, or have lived within two years, is a matter of vital concern. For this reason alone tuberculosis should be classed by law with the infectious diseases, and be placed under the supervision of bureaus of health.

The Assembly of this Commonwealth now provides for the supervision by health officials of ten contagious and infectious diseases, viz.: smallpox, diphtheria, scarlatina, typhoid fever, typhus fever, yellow fever, cerebro-spinal fever, Asiatic cholera, relapsing fever, and leprosy.

The last two diseases in this list are so rare as to be almost a medical curiosity. They were added to the list only last year, and an infectious and contagious disease, which is the chief and primary cause of more deaths (14 per cent.) than all of the above ten, with measles and pertussis included, was omitted.

Ventilation is a much neglected measure of prevention. It has been estimated that each adult individual requiries 3000 cubic feet of fresh air per hour. In a room containing 1000 cubic feet the air should be changed three times an hour to prevent the CO^2 from arising above six parts in ten thousand. Probably not one room in ten will meet this requirement. While only a fraction of a cubic foot (0.6) of CO^2 is thrown off by respiration, an ordinary small illuminating gas burner will throw off six cubic feet an hour. A natural gas stove,

without a chimney outlet, is one of the most pernicious air poisoners ever invented. It renders the air in an ordinary sized room unfit to breathe in a few minutes. The most efficient means of ventilation we have in the average home to-day is the old-fashioned fireplace. Provisions for the entrance of fresh and the escape of foul air should be made near the floors and ceilings of every living room, in such a way as to avoid draughts. Permits for the erection of all buildings should specify that ample means be provided for ventilation, and official inspection should see that the specifications are carried out. Electricity is to be the light, and, possibly, the source of artificial heat, in the near future.

The knowledge we now possess of the pathology, the three essential factors of infection, the common sources of infection, the common routes of infection, the means at our command to prevent infection, ought and can stamp out, if acted on intelligently and promptly, more than one-half of the cases of tuberculosis in the next twenty-five years, and ninety per cent. of all cases in the coming century.

Sentiment in intelligent, sensible, respectable people *can* be aroused and cultivated; with the ignorant and vicious, nothing succeeds like an absolute fiat.

THE ANTISEPTIC FACTOR OF THE TREATMENT OF TYPHOID FEVER.

By J. CHRIS. LANGE, M. D.,

OF PITTSBURG.

My subject is a report of the treatment of typhoid fever at the Western Pennsylvania Hospital, at Pittsburg, during my terms of service from October to March, during each of the last two years. Sixty cases were selected from those at the hospital; and I must insist upon, and emphasize the fact, that no case was excluded for other than one or both of two causes, namely: first, the existence of the fever for a longer period than ten days when the patient entered the hospital; and second, the existence of complications. These criteria governed the admittance of patients to this class; and no other condition, sign, symptom, phenomena, or event, excluded any patient from it. Other patients at the hospital during the same periods of time, who were excluded from this class, received treatment necessarily somewhat modified; the antiseptic factor was employed, but complications demanded additional treatment, namely: symptomatic or expectant treatment, and supporting treatment. The mortality of this latter class was the usual one at this hospital.

Of the sixty cases upon which this report is based, two,—one a so-called malignant case which died on the sixth day, and of which the diagnosis between typhoid fever and meningitis was doubtful until the autopsy; and the other, a perforation peritonitis, died on the second day after this accident, which happened on the nineteenth day of the disease. Complications were limited in these sixty cases to one parotiditis, one small tibial periostitis, two intestinal hemorrhages, and two ear abscesses. All these cases recovered.

The treatment of typhoid fever embraces three factors. The treatment of symptoms, when these become more prominent or pronounced than is compatible with the safety of the patient; i. e., the expectant treatment. For the purpose of clearness I must specify that under this head is meant to be included remedies addressed to temperature, diarrhœa, delirium, sleeplessness, cardiac weakness, etc.

The next factor of treatment consists of feeding and the general regimen of the patient.

The third is the antiseptic factor, and, as employed by me in these cases, it made the employment of the symptomatic treatment quite unnecessary.

This antiseptic factor of treatment was systematized, as it is done by the surgeon.

It embraced, first, an antiseptic ward. The ceiling, walls and floors were washed once weekly with a solution of bichloride of mercury. Then the patient was kept in bichloride underwear and bichloride sheets, and each morning was washed from head to foot with water. This constitutes the external antisepsis.

Next, all the orifices of the body were kept scrupulously clean and antiseptic. After each stool the rectum was washed out with carbolized water, 1 to 200, and, in females, the vagina once daily. The eyes were washed each day with a solution of boracic acid, as were also the ears and nostrils, both being kept plugged with cotton saturated with a solution of borax in glycerine. The mouth, most important of all the orifices of the body, was washed and scoured, according to its condition, from three to twelve times daily, with equal parts of borax and potassium chlorate, dry, and the patient was then made to gargle his throat. This constitutes the orificial antisepsis.

Thirdly, intestinal antisepsis was practiced by the exhibition of guaiacol or iodoform. Rarely a patient was tympanitic; when this happened the subgallate of bismuth, or charcoal, was given him, or he was made to drink hydrochloric acid lemonade.

Finally, general or constitutional antisepsis was attempted by the administration of one-eighth grain of calomel three

times daily for one week after the patient entered the hospital. It was found to frequently moderate, rarely to increase the diarrhœa. After the first week in the hospital a teaspoonful of the following solution was given every third hour for the balance of the time of the fever: Iodine, gr. iv; Potasic Iodide, gr. xvi; Syrup and an aromatic water, of each ʒ ij.

The antisepsis embraced, therefore, the room, clothes, and bedding, i. e., everything in contact with the patient: external antisepsis, orificial antisepsis, intestinal antisepsis, and general or constitutional antisepsis, or asepsis, if either of these terms may be applied to a body infected by the typhoid germ.

Although it was intended when this factor of treatment was begun, that it should accompany the expectant treatment of the fever, it at once became evident that of itself it was sufficient; and in all these cases no other treatment was given or indicated. No case received any additional medicine. No antipyretic of any kind was at any time indicated; the same is true of the stimulants, of remedies to limit diarrhœa, to abolish delirium, to induce sleep, etc., etc. The only additional remedy employed was opium for hemorrhage in two cases.

Because the fever was not shortened in duration, because the intestinal lesions and spleen enlargement were present, because the temperature was characteristic, because, in short, the fever presented characteristic signs and symptoms and lasted its proper time, it is evident that this antisepsis had no effect nor influence upon the specific germ, its toxine production, nor the lesions of the disease. It is equally evident from the mortality, from the mild course of the fever, from its uniformity in all cases in every direction and from every aspect, from the strikingly characteristic temperature curve, almost identical in all the cases, it is equally evident that this treatment exerted a very decided influence upon the course of the disease. And this decided influence was this: it prevented the occurrence of the secondary infections, known as complications.

When we remember that the mortality of typhoid fever, barring malignant cases, and barring the accidents, perforation and hemorrhage, depends largely upon its complications, upon secondary infections, then, if these can be prevented by

the employment of a successful antisepsis against the advent of the ordinary infectious agents, the mortality of this fever will be reduced into a ratio unapproachable by any other means and measures of treatment.

This antisepsis is addressed, therefore, not to the fever, not to the bacillus of Eberth, not to its toxine poisoning, not to the lesions of the disease, (excepting as the constitutional factor of this treatment, the impregnation of the body with mercury and iodine, may have an influence in this direction), but, on the other hand, is employed solely as a bar against the ordinary infectious agents, additional secondary infections, called complications, which are not necessarily a part of typhoid fever, and which, it is believed, may be prevented.

When this antisepsis shall be improved and perfected, when it shall be made effective by thoroughness, it certainly promises much. This is evident from the fact, for example, that one of these secondary infections, common of occurrence and common as a cause of death, namely, pneumonia, happened in no case.

ELIMINATION, ANTISEPSIS AND STARVATION IN THE TREATMENT OF TYPHOID FEVER.

By H. S. McCONNEL, M. D.,
OF NEW BRIGHTON.

That typhoid fever is a self-limited disease,—that the system having absorbed the poison the disease must run its course through the different stages, I do not believe, and the physician who now treats this disease on the so-called rational or let-alone plan, is as criminally negligent as the surgeon, who, to-day, in treating wounds ignores asepsis. This may seem a bold and unwarranted statement, yet, if it is not true all the time, labor and money spent in the bacteriological study of typhoid fever has been in vain, and our conclusions erroneous; and the bacillus typhosus is a myth. Accepting the micro-organism theory, believing that the point of attack is in the alimentary canal, that the characteristic symptoms are due to the absorption of the toxine, and are the result of the local activity of the specific bacilli, and that a case is grave or mild dependent upon the quantity of said toxine in the blood, are we not compelled to grant the truth of the above?

If Eberth's bacillus is the cause,—and the corroboration of Elsner's observation seems to place this beyond doubt,—and it is ably assisted by the bacillus coli communis, a treatment based upon this pathology, and directed to the exclusion and annihilation of these bacilli is certainly a rational one; and when pathology and treatment go hand in hand with a diminished death rate, and at the same time the patients are more comfortable than by any former methods, we are certainly justified in the above statement.

To fulfil all the indications there are three essential features that we must bear in mind:

First, the prevention of the introduction into the digestive tract of any specific bacilli.

Second, expulsion and destruction of all bacilli in the alimentary canal, and the elimination of the products of their labor.

Third, you must render the canal thoroughly aseptic, make it sweet and clean, and keep it, as near as possible, in this condition.

The first is best accomplished by permitting nothing but boiled water and your remedies to enter the stomach, and by keeping the mouth, teeth, nostrils, hands, finger nails, whiskers and excretory outlets aseptic. The latter is very important, and they should be thoroughly washed after each evacuation. The room must be cleared of all unnecessary articles of furniture and clothing, and all vessels must be kept surgically clean. Milk, or any kind of food, should remain in the room no longer than is required. The apartment should be well lighted, and temperature not above sixty-five degrees.

The second can be obtained by giving three five-grain powders of calomel at hourly intervals, followed with Rochelle salts until you have free catharsis. The patient must have no less than two free passages every twenty-four hours during the fever. If your salts and an occasional dose of calomel will not do this, you will resort to some more active cathartic. Though contrary to what we were all taught, and what is still being taught, purgatives reduce to a minimum the liability to hemorrhage or perforation. The ulceration of Peyer's patches is not typhoid fever. It is caused by the direct irritation of the bacterial poison; and, as Prof. Thistle has so ably demonstrated, the extent of the ulceration is in proportion to the degree of concentration and duration of contact. By purgatives you increase all the intestinal fluids, dilute the toxine and expel it, and thereby, decrease the danger from its local action upon the glands, you restrict blood contamination, you reduce the number and activity of the bacilli, and permit the restoration of the disabled tissue.

The third is done by guaiacol, salol, or any of the other intestinal antiseptics. For the first few days I prefer salol,

after that guaiacol. An enema morning and evening of a large quantity of salt and cold water must be given regardless of the condition of the bowels. All food, and this includes milk, must be prohibited for three days. Recent investigations prove that in typhoid fever very little, if any, hydrochloric acid or pepsin is secreted, and Prof. Thompson says the stomach is similar to that of a new born babe. Yet, in the discussion of typhoid fever a few weeks since before the Cleveland Medical Society, one of the members said he endeavored to have all his typhoid patients take nine pints of milk in twenty-four hours, and in a large number of cases the daily average was over eight pints. Jenner says that a pint of milk is equal to a full sized mutton chop. Think of it, nine mutton chops to a fever patient in one day. Is this not absurd? Is it not injurious? Is it not malpractice? And, to make it worse, this is forced upon a patient who, except in rare instances, has no appetite, who even loaths the sight or taste of food. If a strong, active and healthy laborer was to consult you about some uncomfortable feeling in his stomach, and told you he ate nine mutton chops per day, if you did not tell him he was a swine, you would think so. Recalling the fact that hydrochloric acid is nature's preventive of putrefactive changes, and the formation of dangerous ptomaines in the digestive tract, you will see that a fever patient stuffed in this manner is surrounded with perils so great, that the danger from the bacillus typhosus sinks into utter insignificance. The patient is weak from fever and toxemia, not from want of food. Increased feeding does not imply increased nourishment, but oftener diminishes it from over-working the already enfeebled stomach.

Jenner, years ago, called attention to the injury from overfeeding, and said he had often seen delirium, fever and restlessness subside after the expulsion of large curds of undigested milk. It will be said that this is retrogression. The starvation plan was active a century back. Well and good. If you will exclude bleeding, tartar emetic and salivation, the treatment then was excellent. Over sixty years ago Eberle's treatment was as follows: Plenty of bland drinks, no food, and purgatives; the latter to free the intestinal tract of all irritating and

poisonous substances, and he preferred the neutral salts as a purgative. That was good treatment then for typhoid fever and it is one of the elements of the best treatment to-day.

Page upon page has been written upon the injurious effects of the coal tar antipyretics, and very few upon excessive feeding, yet the danger of the former is small compared with that of the latter. It is this almost universal habit of over-feeding, cramming the patient with large quantities of concentrated nourishment, that makes antipyretic measures so frequently necessary.

In the *Medical Record*, of June 14, 1893, I called the attention of the profession to the beneficial effects in infantile intestinal diseases of withholding all food for twenty-four hours or more, and the giving of hot water *ad libitum*. The rapid improvement under this method in most cases, the great comfort afforded the little patients, induced me to try it in typhoid fever, and I can assure you that I have no cause to regret it.

Lutton, of Rheims, in 1880 extolled the withholding of food and giving large quantities of water; no nourishment until the beginning of the third week. He claimed that this prevented the increase of typhoid germs. As I said above, all food must be positively prohibited for three days. After this it may be allowed when patient is unmistakably hungry. About the fourth day the patient may interpret an empty feeling for hunger, but this is no indication for food. I had one patient seventeen days without food; temperature first week 104 in the morning and 105 in the evening. This patient had organic heart disease, required no alcoholic stimulants, and made a good convalescence. Another, fifteen days without food; and thirty-two cases from seven to twelve days. They can have all the water they desire, but it must be sterilized, and preferably hot. The latter should be administered in definite quantities and at regular intervals. The large quantity of water attenuates the poison and assists the purgatives.

Having stated the indications, I shall tell how I meet them. After free catharsis I order twelve powders, each consisting of phenacetine and salol five grains each, and calomel grain $\frac{1}{8}$, and give one powder every three hours. I do not administer

the phenacetine as an antipyretic, but experience has taught me that no drug will relieve the headache and muscular pains so promptly as this. I now give guaiacol in from five to eight drops every three hours, and continue it for some time after convalescence. I order half a teacupful of hot water every hour, and to impress the importance of this I place a tablet of bromide of potash in a tumbler of water, and order a teaspoonful of this to be given in hot water every hour. When temperature is under 102 I have the body sponged off with cold water every two or three hours. When the temperature is above 102 I apply guaiacol to the right iliac region from five to thirty drops every three hours. It is applied in the manner directed by my friend, Dr. H. G. McCormick, of Williamsport, Pa. In only one case did this fail me, and this one was a case of relapse. While I could not reduce the temperature below 105 for over twenty-four hours, no one can tell how high it would have gone had this not been used. In speaking to Dr. McCormick of this he argued that it had not been properly applied. Here he is in error, for the same very competent trained nurse had controlled the temperature with this remedy throughout the primary attack, and at the time above mentioned was applying as before and afterwards with good results. We applied it hourly for a time, and thirty drops each. It could not have been due to the impurity of the drug, for we used the original package of Merck's.

When heart sounds are weak I give strychnia nitrate, and in one case gave 1-60 of a grain every hour for six days. After this I gave it every two hours, alternating with whisky. In two cases with dirrrhœa I did not try to stop it. The greatest trouble I have is in keeping the bowels sufficiently open. When appetite returns any time after third day I give milk, giving two tablespoonfuls of milk in two tablespoonfuls of water every three hours; then gradually I allow fruit juice, mashed potatoes, soft boiled eggs. If, for any reason, the diluted milk is distasteful, I give malted milk. I never order beef-tea or any of the so-called beef extracts, as I believe them harmful in this disease.

In a series of thirty-four cases treated as above I have had

one death. This was a lady of seventy years, who, one very cold day and gas low, jumped out of bed and sat upon the floor. Lobar pneumonia developed next day, and she died on the fifth day. One patient had two relapses, three had each a relapse, and one had a hemorrhage. Average duration was 18.3 days. This treatment faithfully carried out will materially shorten the duration of the disease, will give your patient the most possible comfort; he will have no tympanites, tongue will be moist, and very little restlessness or delirium. When convalescence is established you will have a stomach that, from its long rest, will be capable of easily and thoroughly digesting food.

I have avoided saying anything about the Brandt method for two reasons: First, I have had no practical experience with it; second, it is impractical in a country practice. I have faith in it, and believe all its friends claim for it.

I desire to acknowledge my indebtedness to Prof. W. B. Thistle, of Toronto, who has so earnestly and ably advocated the eliminative method; also, to Dr. C. E. Page, of Boston, who gave me the courage of my convictions in withholding food and using hot water systematically; and to Dr. McCormick, who has taught us all how and when to use this valuable drug, guaiacol.

THE USE OF ALCOHOLIC STIMULANTS IN TYPHOID FEVER.

By THEO. P. SIMPSON, M. D.,
OF BEAVER FALLS.

Nothing in therapeutics has given me more concern than the administration of alcohol in fevers. There is nothing in medicine about which so much has been written and so little, comparatively, settled beyond dispute, as the question of the use of alcoholic stimulants. The results of experiment and of experience are contradictory; and there are many able men in the profession who hold that the use of alcohol in fevers has done more harm than good.

That alcohol is a powerful drug which may do serious damage in careless hands, no one will deny, and that there is much less than the usual care exercised in giving this remedy seems to be a fact. So accustomed are we, apparently, to witness its daily use as a beverage, we forget that it is a drug—a remedy—the proper use of which requires more than ordinary judgment to secure the best results. This brief paper is offered in the hope that, without attempting to be exhaustive of the subject, it may, in a modest way, lead to a more thoughtful consideration of the real value of this agent in fevers, and especially in the typical condition of continued fever called typhoid.

Typhoid fever, being essentially adynamic, and continuing for a long period, makes heavy drafts on the strength of the patient, and this has led many physicians to prescribe alcoholic stimulants from the beginning of the disease in large quantities under the erroneous impression that diseases characterized by depression are best treated by arterial stimulants. That this is an error there is no doubt; and such treatment

frequently defeats the object it was sought to gain. If the patient recovers it is in spite of the treatment, not on account of it. When alcohol does no good it does harm. It is a serious question whether the abuse of it, in typhoid fever, has not done more mischief than all the good it has accomplished. My purpose is to call attention to and to condemn the apparently increasing practice of giving alcohol in stimulating quantities to all cases of typhoid fever as a matter of routine. Nothing could be worse practice. The large majority of cases require no stimulation at any time; a few are benefitted by small doses, and only rarely are large quantities justified.

The danger is from nervous exhaustion and heart failure. It is not only useless to give alcohol in the early stage of the disease in the expectation of preventing the occurrence of these conditions, but it is most likely to hasten their appearance.

It has been said that mankind does not need to be informed so often as reminded, and with this thought in mind attention is called to a few well-known but frequently overlooked facts about the action of alcohol in support of the statement just made.

In moderate quantities it induces a superficial congestion of the mucous membrane of the stomach and this increased blood-supply causes a more abundant secretion from the mucous follicles and gastric glands. In small doses, alcohol increases the digestive power by thus producing a larger supply of the gastric juices.

On the other hand, large doses impair digestion by precipitating the pepsin, an albuminoid ferment acted upon by strong alcoholic solutions. Frequent and long-continued overstimulation of the gastric mucous-membrane results in a gastric catarrh, and the mucous glands discharge a pathological secretion. The abnormal mucus secreted acts as a ferment on the starchy, saccharine and fatty elements of the food, and thus both the disability and the distress are increased.

As to what becomes of alcohol after passing from the stomach into the blood, opinion is divided. Whether it is a direct food, or, in some occult way, furnishes force to the system, or

whether it is merely a dangerous stimulant, the reaction from which may be more harmful than could be compensated by primary beneficial effects, is not settled to the satisfaction of all. But the fact seems well-established that alcohol is a useful remedy in the small quantity which increases but does not impair digestion, which quickens gland secretion but does no harm by over-stimulation, and which is within the limit of the powers of the organism to dispose of by the processes of oxidation.

Alcohol passes with extreme rapidity into the blood. It has a special affinity for nervous matter, and acts quickly on the heart, causing more powerful contractions of the cardiac muscle. Herein lies the danger from too early or too free use of this drug. Is it wise to risk over-stimulation or to lash these delicate organs to laborious action unnecessarily? Is it not better to conserve their energies by making sure of the digestion and giving other remedies to preserve the integrity of these organs?

Typhoid fever being an adynamic disease of definite duration, our aim should be not only to employ every means which tends to increase the resistance of the body to the disease, but just as carefully to refrain from the use of anything which lessens the vitality and promotes the tendency to exhaustion. Let us be sure that we assist nature, but do not hamper nor frustrate her efforts.

As the disease progresses, if signs of faulty digestion appear, small quantities of alcohol will improve this condition, and, at the same time, enable the patient to take more food, thus assisting to sustain the strength until the vital organs affected can reassert themselves. Frequently the quantity necessary to secure this tonic effect may be found in the light wines or in one of the various liquid peptonoids, which contain from sixteen to twenty per cent. of alcohol. With this may be combined essence of pepsin, muriatic acid and strychnia forming a mixture more palatable to the average patient than the plain beef preparation.

Without desiring to enter into a discussion of other features of the treatment of typhoid fever, it may not be out of place

to express the opinion that if strychnia is administered regularly, beginning early in the disease, there will be less danger of nervous exhaustion and all that it implies. Should this plan of stimulating the digestion and giving strychnia to sustain the nervous energies be persistently adhered to, there will be less danger of collapse of the brain or heart, and the cases needing arterial stimulation will be few. As a rule, to which there are few exceptions, alcohol, as an arterial stimulant, does harm during the first two weeks or before the secondary fever appears. But if, during the latter part of the second or in the third or fourth week, the signals of approaching failure appear, then the time has come for the use of alcohol in doses sufficient to steady the flagging heart and brain; and the response will be much more prompt and satisfactory than could have been had the whip been applied from the beginning and the heart muscle exhausted by useless overwork. But even now great care is needed not to o'erleap the mark. Only sufficient stimulus should be given to hold the pulse steady in number and volume and prevent the threatened brain exhaustion. Whisky is the best of the alcoholic preparations for this purpose, but the tonic mixture mentioned may also be continued. The quantity of whisky necessary is only to be determined by its effects in each case. If the intellectual faculties brighten, the subsultus, carphologia, etc., improve, and the systolic sound of the heart becomes more distinct, the remedy is doing well and the dose required to secure these results should be continued. Inebriates and special cases may need as much as one pint during twenty-four hours, but it is seldom that more than six to eight ounces should be administered. Careful attention should be paid to the action of the kidneys, for if albuminuria is present, the use of alcohol in large quantities is extra hazardous, and frequent investigations of its effects on the secretions should be made. Good judgment will also be required to determine when and how the whisky is to be discontinued. There is some danger of extending its use too far into convalescence and thereby permitting the patient to become addicted to it, or of producing serious alterations in the stomach by its long-continued irritant action. The quantity should be grad-

ually reduced and discontinued altogether as soon as the signs of threatened heart and brain exhaustion disappear, the tonic doses before-mentioned being continued until good digestion is re-established.

It is not the purpose to discuss the unusual cases or accidental conditions of typhoid fever in which alcohol may be useful. The object, as stated in the beginning, is to protest against the pernicious habit many have of giving alcoholic stimulants in large quantities without careful study of the requirements of individual cases, and it is hoped that this deplorable practice may be more generally recognized and condemned.

THERAPY OF VERATRUM VIRIDE.

By JOHN M. BATTEN M.D.,

OF PITTSBURG.

Veratrum viride makes the heart's action slower and more feeble. It was first used by Magendie and Andral in physiological experiments in 1821. Meisner first discovered it in the seeds of veratrum sabadilla in 1818. Bardsley first used it in rheumatism and dropsy in 1826. The curative effect of veratrum viride lies in its action on the heart to lessen its beats in acute inflammatory diseases in which the heart's action is very much accelerated. I have been able to get the physiological effects of the drug in cases of inflammatory diseases with not a larger dose of the Norwood's tincture than three drops every three hours. By this dose given every three hours I have been enabled to reduce the pulse-beat twenty or thirty in a minute, especially when the high pulse has been caused by inflammation. In inflammatory rheumatism I have had good results with this drug by keeping the pulse at or near normal for a continuous period of time, or till convalescence set in. In the early or initiatory symptoms of measles, scarlet-fever and in some cases of small-pox it acts favorably in governing the heart's action. In typhoid fever, where the heart's action is irregular, I have thought that this drug in one drop doses aided in steadying the heart's action. For this purpose I have, in the treatment of typhoid fever, continued the drug in these doses till convalescence set in. In all acute inflammatory diseases of the chest it is an excellent remedy; in acute pneumonia, pleuro-pneumonia and pleurisy. If, in acute pneumonia, the pulse can be kept at or near normal by this drug in the stage of congestion, we may be often able to jugulate it or prevent it from entering upon the hepatized stage. Even

in a sthenic case of the second stage, veratrum viride acts well. The heart's action is lessened without any loss of blood as in bleeding.

"Should we Bleed or Not Bleed in Acute Pneumonia?" was the title of a paper read by a gentleman at the American Medical Association at its meeting held in Milwaukee, Wis., 1893. In the discussion of the paper some took one view of the subject while others took the opposite. A gentleman, in the discussion of the paper, advocated veratrum viride in the treatment of acute pneumonia. He had such entire confidence in the treatment of the disease with this drug by keeping the pulse at or near normal, that he made the bold assertion that all cases could be jugulated or cut short by this mode of treatment. He told the story of having been called to see a case of an only child, a boy, suffering with this disease. The parents, as a matter of course, were much exercised about the possible recovery of their son. The doctor told them that if they would carry out a line of treatment which he would indicate, he would, in case the patient didn't recover, mortgage his (the doctor's) property in their favor. The patient recovered with the veratrum viride form of treatment.

Another gentlemen, at this same session, read a paper on the treatment of complications arising from acute pneumonia. The same gentleman who discussed the former paper, in the discussion of this paper, also contended that if the cases which had presented these complications had been treated properly with veratrum viride, the complications would not have occurred.

On the evening of February 27, 1896, I was called to see William McC., male, aged 46. The disease was about entering the second stage; both lungs were involved. The pulse was 82, temperature 102°, respirations 32. The expectoration bloody, with mucus. I prescribed veratrum viride, three drops every three hours. February 28th, expectoration rusty, intermixed with blood; temperature 101½°, respirations 30, pulse 80. I prescribed, in addition to veratrum viride, gr. $\frac{1}{40}$ of nitrate of strychnia every eight hours. The patient was cyanosed. February 29th, temperature 99°, respiration 28, pulse 79, sputa less rusty with a mixture of blood. March 1, pulse 78, temperature 99½°, expectoration rusty, intermixed with blood. After this, during the course of the disease, neither the pulse

nor the temperature ever arose to normal. On March 5, the rusty sputa disappeared. On the 16th of March, patient was sitting up in bed and thereafter made rapid convalescence.

In the same house, on the evening of March 12th, I was called to see A. C., male, aged 66, entering the second stage of typhoid pneumonia. Both lungs were involved; tongue thickly coated with a brown coat, red around the edges; delirious; temperature 103°, respirations 30, pulse 109, rusty colored sputa. I treated him in the same way as the former patient till the evening of March 15th, when he had an attack of heart failure. I withdrew the veratrum viride and substituted for it whisky and continued the strychnia. The pulse, after this, during the course of the disease never rose higher than 90. The respirations for four days, including my first visit, were 36, 35, 35, and 38, respectively, then receded gradually, and on March 20th they were 30, and, in a few days, down to 19. The pulse continued to lessen in beats, and by March 22d these were below normal. The patient, by April 6th, had fully convalesced. The heart failure of this case was caused, I think, by an accumulated effect of the veratrum viride. It is my opinion that the failure of the heart acted favorably in the future course of the disease, as the turning point in the disease seemed to be established at this time.

For both of the above cases I enveloped their chests with oil silk jackets. Meeting a relative of the second case when the patient had commenced to convalesce, he said to me "how is Mr. C?" I told him he was getting better. He replied, "and you didn't use poultices?" I said "No." "Well," he said, "do you know if the patient had died I would have censured you for not having used poultices." I told him that I had more faith in the oil silk jacket than I had in the poultices.

A PRACTICAL WAY TO INCREASE THE MEMBERSHIP.

By S. S. TOWLER, M. D.,

OF MARIONVILLE.

The leading idea of this paper is borrowed, but so far as lies in me, I wish to return the principal with interest. The question of increasing the membership of the County Societies is not touched, except so far as influence of the State Society contributes thereto.

Any organization, seeking enlarged membership from a select class, must be attractive and useful to that class. Its attractive usefulness must be apparent, commanding and publicly known. What it is, what it does, how it accomplishes its purposes, must be placed frequently before the eyes, and poured into the ears of those whose companionship it seeks. In short, although the word may strike some as ill advised, it must advertise. Yes, advertise. Advertise boldly, attractively, and yet ethically. This State Society has within its membership general practitioners and specialists, who are the peers of any of their class. Their lectures, papers, operations and treatment, generously placed before the medical public, play little or no part in enhancing the value of membership in this Society. The papers read and discussed here, make their appearance in a volume of Transactions that the larger class of practitioners never see, and our own membership seldom read. If advanced sheets are sent to Medical Journals, all the credit this Society gets is in a small note, in very small print, almost unobservable, at the foot of the title page reading, "read before, etc." The talent of this Society, so far as the Society is concerned, is hid. The class we wish to reach, should be impressed with the fact that such and such a paper was brought out by this

organization. That its author belongs here, that his fame is our fame. Again, this Society ought to be brought before the laity by activity in the line of public health and hygiene. It ought to be first in all legislation of this character to such an extent, that the lay mind would concede to it the leadership in these matters. Again, let this Society take advanced business, rather than complimentary, methods. Let it be understood that its officers will be chosen only on the score of qualification for the position. Presidents and Vice-Presidents from those fitted to preside and dispatch business; Secretaries because of aptness for that position; Trustees on account of business ability. There are too many brainy men in the membership to single out any one of them as an official, on the score of compliment to superior medical learning. That policy is unfair to those who are the peers of the member chosen. It leads to jealousy and suspicion of clique. A doctor may make a very weak officer, and yet be a brilliant leader on the floor, and *vice versa.* Why mar the harmony of things by putting him in the wrong place?

This Society ought to have its own journal. In it the talent of our membership would reflect credit on them as much as it now does elsewhere, and a great deal more than it now does on this organization. It should have its quiz column, giving information to any member that needs light. Everything that passes here should be fully published; papers, discussions, business, as well as a full account of receptions and fraternal hospitalities. Such a journal would show the world that we exist, and exist for a purpose. That purpose, not for the benefit of the few, but for the welfare of the many. It would show that the humblest member would have as kindly consideration as the proudest Professor within its ranks. Its ten minute papers would be read when columns of rehashed literature would be laid aside with a groan. Many practitioners rank us as narrow and selfish; a large part of the lay public regard us as specially hide bound, a sort of close corporation. Neither party will ever know better until we teach them better, and that can only be done by public print laid often before them.

Such a publication makes the Society prominent, and it is

prominence that first attracts the outsider. That outsider soon learns that to become a member of this Society, that he or she must first be one with the doctors of his own locality. It places before the local physician a higher plane to be reached, and that can only be attained by beginning actively at home. Organization we have, utilization and concentration is within our power. Let us use this intelligent force, not selfishly but for the benefit of our State profession, and bring back to this grand old Commonwealth the medical glory once hers, and which she can still command,

"that tower of strength
which stood four square to all the winds that blew."

IRRITABLE UTERUS.

By T. D. DAVIS, A. M., M. D.,

OF PITTSBURG.

Not all painfully distressing diseases are necessarily fatal. Physicians are, therefore, prone to treat lightly such pains, especially if they occur in physiological processes. The many annoyances and discomforts of pregnancy are too often passed by with the assurance that they are not uncommon to the condition and must be borne. There is one complication, however, that cannot be dismissed so easily and which causes the greatest agony to the patient and chagrin to the doctor, because he cannot permanently relieve it. I refer to the so-called "*Irritable Uterus.*"

Fortunately it is not frequent, but when present in an aggravated form, is one of the most distressing complications of pregnancy, sometimes causing daily suffering equal to labor itself, but in the lighter forms, possibly often patiently borne by the uncomplaining woman as one of those ills necessarily attending maternity. While nearly every physician in family practice has seen more or less of these cases, yet strange to say, they are not fully described in the text-books and, if mentioned at all, are dismissed in a few lines. The prominent symptom of the condition is pain. Pain varying in location, intensity, duration and persistency. Pain referred often to the uterus itself, the sacrum, the lumbar region, or unlocalized throughout the abdomen, and these various pains being present in the same patient at different times. It may be so intense that sleep or rest without anodynes is impossible, or it may come only during certain hours of the day, or after unusual fatigue, or undue exercise, or emotional excitement. This pain may begin as one of the earliest symptoms of pregnancy and con-

tinue for a few months or throughout the entire term. It may for weeks closely resemble the preliminary pains of labor, and then be absent for several days or weeks to return again as if labor was really commencing. It may be present in the earlier months and almost entirely absent in the later months, or it may only be present in the later months, producing continuous apprehensions of impending labor. It may occur in one pregnancy and be absent in the next and be present again in the third, while some women invariably suffer in every pregnancy. In a recent case, the second pregnancy, the lady described her suffering as fully equal to that of labor, and during her first one she had suffered more or less throughout the entire term. These pains differ in character as much as in location and persistency, sometimes they are dull and annoying like rheumatism, sometimes gnawing, sickening, burning, and again sharp like neuralgia, but most frequently closely resembling true labor pains.

In addition to the pain, most cases suffer with nausea, as variable in its intensity and duration as the pain, but seemingly bearing little relation to the pains. The loss of rest, the nausea, etc., lead to loss of appetite, emaciation and prostration, with an attendant train of nervous symptoms. I have noticed in some cases obstinate constipation and scant urine. On palpation of the uterus, in most cases, marked contractions can be felt, but not always synchronous with pain nor corresponding in degree with the pain, for sometimes the suffering is very severe when the contractions seem slight. In my case mentioned above, the contractions were most peculiar. The uterus which was between the fourth and fifth month of pregnancy, would take on the most irregular shapes, sometimes contracting as one hard smooth mass, at another feeling as if made of several hard masses, each the size of an orange. When I first felt them, so long and persistent and irregular were they, that I felt sure there were a number of fibroid tumors present. It appeared as if one portion of the uterus could contract into a hard lump and the rest remain flaccid. These contractions would persist for ten minutes, and sometimes even longer without intermitting. When they passed

away the uterus became so soft and flabby that it was very difficult to outline and, indeed, lead one to doubt if there was pregnancy at all. I noticed that generally the contractions were painful, but she frequently complained of severe pain when I could detect no contractions at all. They were not regularly intermittent like the contractions of labor and did not ascend from the neck to the fundus, but took on the most erratic course, causing the uterus to assume very peculiar shape and forms—hour glass, spindle, spheroidal, multiglobular, etc. The pains had been present from the first, at one time leading to the fear of peritonitis. After the womb rose above the pubis and the contractions could be felt externally, they persisted for five or six weeks, the marvel being why they did not cause the womb to empty itself. When the inevitable abortion did occur the fœtus appeared perfect and well nourished.

A case I have under my care now in the sixth month, has had three severe attacks of pain in which the contractions were marked, coming on and persisting for a week, but presenting no other symptom whatever of a threatened abortion.

When this subject is mentioned in the books it is mostly associated with abortion. But this condition is not the *result* of a threatened abortion but rather stands as a *cause* of abortion. Very many cases do not abort at all, even though the pains may be severe and persistent. How an organ so insensitive as the uterus can become so exquisitely painful has always been a mystery, and why this excessively painful condition should be present in some and absent in the great majority of cases is also an unanswered question. The term *irritable uterus* hardly describes this condition, for it is not certain that the uterus is always even the seat of the pain, and it is not proven that these painful contractions are caused by lesions in the uterus itself, although in some cases the pain seems to be excited by the motion of the fœtus in utero.

In some cases the uterus is exceptionally healthy, while women suffering from tumors, erosions, lacerations and even endocervicitis, may pass through their pregnancies without a single painful symptom. Neither is it rheumatism, as described

by Charpentier, because there may be no rheumatic history, diathesis, or evidence of rheumatism in any other portion of the body, and the condition is relieved as soon as the uterus is emptied. I would rather class it with the neuroses, of which puerpural mania, convulsions, etc., are examples.

The relation between the mental condition and uterine contractions is most intimate, as we all recall by the oft repeated statement "that the doctor's coming has driven away the pains," and we have all noted what marked effect hope or despondency has on the pains of labor. All the cases I have seen have been in women of profoundly nervous temperament. As we can only theorize concerning the cause of true labor pains, so we are in the dark concerning the exact cause of this irritable condition, whether it be a reflex from or to the womb.

The treatment must vary according to the case. The pain can be controlled by opiates, yet they rapidly loose their effects and have to be greatly increased in quantity, speedily tending to the formation of the opium habit. Bromides by enema in large doses have proven beneficial. So ergot carefully given may control the spasms of contraction. The constant sick stomach often precludes all medicine by the mouth. To the hygienic surroundings much attention should be given ; recreation of both body and mind, genial company, fresh air and frequent bathing. As far as possible keep the patient from lying in bed. A carefully selected nutritious diet even when the stomach may promptly reject it, is to be persistently used, although I have used nutritious enemata for a week to the great relief of many of the worst symptoms. An old fashioned remedy for morning sickness I allow my patients freely, plain popped corn well salted. They will sometimes retain this when all other food is rejected. In spite of our best endeavors, however, abortion occurs, or the distressing symptoms remain.

ACUTE PELVIC PERITONITIS FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.

By J. M. BALDY, M. D.

PROFESSOR OF GYNECOLOGY IN THE PHILADELPHIA POLYCLINIC; SURGEON TO THE GYNECEAN HOSPITAL; GYNECOLOGIST TO THE PENNSYLVANIA HOSPITAL.

Considered from the standpoint of the general practitioner acute pelvic peritonitis has received little consideration of late years, the impetus being mostly in the surgical direction. Naturally all physicians have equally the well being of their patients at heart, and each one is apt to adopt the methods, for the sake of reaching a given end, with which he has the greatest confidence of obtaining the surest and speediest result. A surgeon will in a given case resort to surgery where a medical man would reject these methods and call to his aid his therapeutic knowledge; and both may be right within certain limits. Take for instance the case of a woman suffering from an attack of acute pelvic peritonitis. This attack may be due to a chronic disease of the fallopian tubes, a condition which may have existed for some years, and the woman may have suffered from several previous attacks of peritonitis due to this lesion of the tube. Therapeutics will most frequently cure the existing acute peritonitis, but will often on the other hand fail to cure the woman. By this it is intended to convey the fact that the originally diseased Fallopian tube remains in the pelvis a continued menace to the patient's health and ever ready under favorable conditions to rekindle the local flame. The purely medical man is correct in pronouncing his patient well after the abatement of all the symptoms; but so also is the surgeon correct when he goes a step farther and looking to the future of the patient says, she will never be safe from a

return of similar attacks until the diseased structure which is contained in the pelvis is removed and ceases to be a menace.

It is not my object in this paper, however, to deal in any way with the surgical side of this subject but to point out and impress upon you two aspects of this condition which appear to me to be important to all medical men, whether they practice surgery or general medicine, viz: the diagnosis, but more important, the non-surgical methods of treating acute pelvic peritonitis.

The diagnosis is important in that it aids at times very materially in the conduct of the case, but of most importance is it as a means of determining the exact cause of the attack, the determination of which will not infrequently settle the question for or against an operation in the mind of the attending physician. Be it understood that I do not hold that an exact diagnosis of the cause is absolutely necessary for the treatment of the complicating inflammation, such being contrary to the facts. I mean by this that a case of pelvic peritonitis may be and, as a fact, often is treated rationally and correctly without the knowledge of the exact cause. Let it be understood, however, that no scientific physician is justified in thus proceeding in the dark without having first exhausted all known means of arriving at an exact diagnosis, but after all is said and done it must be acknowledged that the cause cannot always be detected even by the most skilled, the failures recorded being, of course, in direct ratio to an attendant's skill and ability. Fortunately the symptoms of pelvic peritonitis occur with sufficient emphasis to leave small doubt as to its presence. The pain, swelling and tenderness, the anxious expression of the face, together with the rise of pulse and temperature coming acutely, are only too strongly indicative of inflammation, and their presence in the pelvis and lower abdomen quickly locates the seat of the trouble. A local examination may or may not discover the cause of the attack. From the point of view of settling what line of treatment to adopt, medical or surgical, the discovery of the cause is of the greatest importance. If, however, a purely medical course of treatment is determined upon, the cause matters little as far as the treat-

ment is concerned. By this I mean that the medical treatment of pelvic peritonitis is to a great extent routine and varies but little if at all, it matters not what the cause, whether it be due to a gonorrhea, an old post-puerpural septicemia or a neoplasm. Even where an operation is known to be necessary it is at times advisable to relieve the acute attack of peritonitis before submitting the patient to an operation, this is especially true at times of those cases which are sent on long journeys in order to reach a surgeon or enter a hospital. This being so is extremely fortunate, as not infrequently the physician in charge does not or cannot make an accurate diagnosis. If, however, he be familiar with the general principles of the treatment of inflammation, it only needs that a slight variation of their application be made for the pelvis. The principles involved in the treatment are precisely the same in the pelvis as in any other part of the body, it is only in the details of the application in which there is any variation.

The method of treatment of inflammation is rest, depletion and incidentally relief of pain. This is consequently the method of treatment of pelvic inflammation. Only too often is the desire to relieve pain made the occasion for neglecting depletion. Opium will fulfill two of the indications (rest and relief of pain) but will defeat the third (depletion) of equal if not of more importance. A patient suffering from acute pelvic peritonitis should be put to bed and kept there, thus fulfilling the first indication—rest. Physical rest of the muscular system must be followed by functional (sexual) rest. If this can be secured with certainty in no other way, large soft vaginal tampons may be worn between treatments, replaced frequently and care being taken that they do not press upon the posterior parts of the vagina too firmly. Wool is much the best material for this purpose on account of its elasticity and its non-absorbable qualities. Rest is particularly important at the time of the menstrual period.

Depletion is obtained in several ways. Direct scarification or leeching of the cervix uteri will at times give remarkable relief. The great remedies for this purpose are, however, hydrogogue cathartics, the best of which are the salines. A tea-

spoonful of magnesium sulphate each hour until the bowels begin to operate is invaluable for this purpose. The object to be gained is depletion and not merely the emptying the rectum and colon of fecal matter, although this in itself is beneficial. Hence the aim should be to secure half a dozen or more movements within a few hours, the last ones being purely serous. Not infrequently will an attack of acute pelvic peritonitis be entirely ended with the purgation; the abdominal distention subsides, the pain and tenderness are relieved, the pulse and temperature become normal and the patient is at once convalescent. Such a prompt result gives rise to the suspicion that the attack was not a peritonitis at all, and in the majority of cases this is the truth as has often been proven by abdominal section. There exists a sort of reflex peritonitis accompanying a very small local inflammation in the pelvis which often simulates a general involvement of the whole pelvic peritoneum. Adbominal section has frequently shown such cases to possess an abdominal and pelvic peritoneum free from any trace of inflammation outside of a few apparently unimportant adhesions. It is a case of this class which is terminated so abruptly by a saline purge.

In a true inflammatory attack, however, the purge is of great importance and benefit, but must be looked upon as only a step, although an important one in the treatment. Should magnesia preparations be rejected by the stomach, calomel in grain doses repeated half a dozen times, followed if possible by one or two doses of saline, and finally a large enema of hot soapsuds is an excellent substitute.

The peristaltic action of the intestines induced by the purgatives will most probably increase the pain for the time. Should this not prove unbearable it will be well to encourage the patient to submit to it until the bowels move, when it may be promised with confidence that the suffering will be markedly lessened if not altogether relieved. Should the pain, however, prove too great to bear, opiates in the form of hypodermatics of morphia in small doses ($\frac{1}{6}$–$\frac{1}{4}$ gr.) need not be feared, although it is best if possible to first secure free purgation; under these circumstances it will generally be found that they are not

needed. Depletion being obtained in this manner it should be followed up by the application of the vaginal douche given twice daily. The first effect of a hot douche is to cause congestion, and unless the application is pushed to the extent of procuring the secondary effect of the hot water (the shrinking and blanching of the tissues) it will do positive harm. To insure a proper result, therefore, a gallon of water must be used, the patient must be reclining upon her back and the water must be at a temperature of 105°–110°. In no other way can anything but harm come from the douche.

Counter irritation, poultices, etc., are of more than doubtful utility, although their use is attended by no harm and may serve the good purpose of allaying the mental condition of the patient.

The attack will be of longer or shorter duration according to the underlying disease which is giving rise to the trouble. Those attacks which keep a patient confined to her bed for a month or six weeks or longer, give rise to the suspicion that suppuration has taken place and consequently should always be given the advantage of an expert opinion when that can be obtained.

The diet should be properly regulated and the excretory organs should all be kept in good condition. There is no occasion for the use of antipyretics in any of these cases. When the patient is well enough to leave her bed, care should be taken that she avoid all undue exercise or sexual indulgence until the pain has entirely subsided. Such general management as the proper regulation of clothing, etc., need not be emphasized before such a body as this.

ALCOHOLIC STIMULANTS IN THE TREATMENT OF DISEASE.

By JAMES FULTON, M. D.,

OF NEW LONDON.

Mr. President and Fellow Members: For a very long time alcoholic stimulants in their different forms have been considered by the people as very important adjuvants in the treatment of diseased conditions. This belief is, no doubt, partly acquired by constant association with them, they being kept as convenient remedies in the case of accident or sudden sickness; also, to having been taught the importance of such drugs from earliest infancy, commencing with the babe for the colic, many highly esteeming them as remedies in this frequent and annoying trouble of childhood. Many times indeed, have I been told upon inquiry as to what remedies had been used, that the baby had been given only a little brandy, as some doctor had recommended it as the best means that could be used in such conditions. Again I have known physicians, neighboring practitioners, more than once, on being called to a case of sickness to ask, have you brandy or whiskey in the house? If not, the family were told they had better procure some, as it in all probability would be needed, and it generally was. These were called first rate doctors.

One important reason for its frequent employment by physicians is its popularity with the people, the desire to please; particularly with young men anxious to build up a clientage. We have been taught that alcohol is the substance par excellence for the production of heat in the human body; also that it is a sustainer; that it is valuable in long continued illness, by reason of these important qualities, hence its great use in such troubles as consumption and typhoid fever. We

are all too familiar with the stereotyped prescriptions of whiskey and cod liver oil, or whiskey and milk. Why such a form of treatment has taken so strong a hold upon the profession is difficult indeed to understand. Why so many believe whiskey, not only a cure but a preventive in consumption, is certainly beyond the reach of the ordinary comprehension. Dr. N. S. Davis, of Chicago, had listened to this doctrine until he determined to investigate. In Mercy Hospital of that city the opportunity was presented; he observed 210 cases. These upon examination he divided into three clases: the first those who had used some form of alcoholic beverage almost daily from one to twelve years; the second class those using them occasionally; the third such as totally abstained. Of the 210, 68 belonged to the first class, 91 to the second, 51 to the third. Of the whole number only 15 could be called drunkards; 5 of these were admitted to the hospital with delirium tremens. Of the whole number admitted 159 had been accustomed to the use of alcoholic liquors—true they had not used the cod liver oil in conjunction with the stimulant. This observation in a large hospital, under the management of a careful clinician, three-fourths belonging to the drinking class, one-fourth to the abstainers, certainly would not be a very strong argument to offer in favor of the pet theory that stimulants not only cure but prevent tuberculosis. From my own experience, I believe these statistics to be facts, not to be gainsayed. Yet so strongly is the opinion founded not only in the minds of the people, but also with many physicians, that should a homeopath or regular, undertake to treat a case of consumption or typhoid fever without whiskey, those in his immediate vicinity would not only have their serious doubts as to his orthodoxy, but would also seriously doubt his knowledge of medicine.

In typhoid fever liquor has been largely used, particularly in the stage of prostration for its sustaining power, its ability to hold up the flagging energies of the economy. Beaumetz says all alcoholics are poisons. Dr. Beaumont in his experiments with Alexis St. Martin, found a slight excess of alcohol to produce upon the mucous membrane of the stomach considerable erythema with apthous patches, attended by

thick, ropy mucous tinged with blood. Many investigators have considered alcohol therapeutically as an anesthetic. Dr. Norman Kerr, in the Twentieth Century Practice, defines it as an irritant narcotic poison, which seems to fill the bill quite as well as any definition yet offered. In typhoid fever we have every organ depressed, especially the stomach, the important organ in holding together the vital forces. Instead of giving hot milk, meat juices, articles easily acted upon, easily assimilated, would it be proper to use remedies that would retard instead of assisting it in the performance of its duty? Dr. Richardson finds in his researches that alcohol has a particular affinity for brain and nerve tissue, particularly the pneumogastric nerve.

Alcohol then, not only does not assist digestion but impairs the action of the nervous system by its anesthetic or narcotic powers. All know that if the nerve power of any organ is in abeyance—like the body without the directing power of the brain—it can accomplish nothing. We not only do no good by our stimulants, but deprive the important organs of the body of their power to react. This has to me been plain for a long time, though in my limited opportunities of investigation I was unable to prove it to any one save myself. I have for some time abstained from the use of alcohol in low forms of disease to my entire satisfaction, feeling that by so doing I have gained from the means used the best results that could be obtained under the existing conditions. Other important reasons why alcoholic stimulants should not be used in typhoid fever or other low forms of sickness, are that they interfere with metabolism or tissue change—the operation by which effete or waste material is eliminated from the system, and without this ability of the economy to relieve itself of dead matter, it is impossible to see how recovery can be complete. Again, alcohol impairs the oxygen carrying power of the red corpuscles, a function so important as to need no illustration of this retarding influence to show its injurious effect upon recovery.

Delirium tremens, is another trouble in which alcoholic stimulants have been considered of paramount importance, a disease in which it was thought to be not only unwise but dan-

gerous to withdraw stimulants. Dr. Kerr says in his experience with some hundreds of cases, the universal rule is to withold the liquor. This he has done notwithstanding those who have been taught and acted otherwise in cases where they had the whole control protested, yet he says that it has never been done but with the best results. He further says that in the work-houses and prisons of Great Britain, not many less than one hundred thousand are admitted every year—the bulk of these are broken down inebriates shattered by alcohol, yet their liquor indulgence is forthwith cut off, not only without injury but with remarkable benefit; they speedily regain health and strength.

My experience in the treatment of this disease has not been large, but well do I remember one of my first experiences. A young man, a machinist, called upon me candidly stating the trouble under which he was suffering, told me that he had run out of money and the hotel would trust him for no more whiskey, but if I would get him some he could taper off and get well. From previous teaching I was prepared to believe him. I bought him a pint of whiskey and paid for it, but unfortunately found that the taper end was the largest. I received neither money nor thanks for my trouble, such being in the general way the case. So prostituted are such patients that they are entirely unworthy of belief, ready to swear to anything to procure the poison that is destroying them. Since that experience I have done differently; I will not undertake the treatment of such cases without the power to control them.

Dr. H. C. Wood says: "that in advanced chloroform or ether anesthesia, alcohol failed in every instance to increase the size or force of the pulse, in some instances materially helped in extinguishing it." His advice in accidents of this kind is to avoid all drugs except strychnine, digitalis and ammonia. And remember that many of the deaths set down as due to chloroform and ether have been due to the alcohol given for the relief of the patient. Dr. Wood again says: "alcohol is probably of no value in shock whatever." I am perfectly sure a large dose of alcohol in shock puts one nail in the coffin of the patient.

The speaking of such authority is certainly not very assuring to the advocates of stimulants. I saw Dr. Joseph Price, of Philadelphia, about to perform an important operation some time ago, the pulse flagged under the anesthetic, he used nitrate of strychnia. All came out well.

Dr. Frank Payne, Vice-President of the Pathological Society of London, affirms that alcohol is a functional and tissue poison, and that there are no necessary uses for it in medicine. Thus we might go on almost indefinitely to accumulate evidence of the injurious influence of alcohol in its different forms. I hope I have been able to say something that will be an incentive to thought. Many good men have gone along following blindly a fashion that has been set up, but which has no foundation in scientific truth. I believe that candid observation and investigation will convince any one of the erroneousness of many of the theories promulgated in regard to alcohol. If those who make such an investigation, by so doing avoid leaving in their pathways moral, mental and physical wrecks, they will be amply repaid in time. A vastly greater reward awaits them in eternity.

SPEECH DEFECTS, THEIR CAUSES AND TREATMENT.

By G. HUDSON MAKUEN, M. D.,

OF PHILADELPHIA.

The importance of speech as a factor in mental and physical development and the possibilities of its improvement are not very generally appreciated. The mechanism of articulate speech is exceedingly complicated and difficult to understand. We cannot see the action of the organs except to a limited extent, and we can form a conception of what this action is like only by its result in phonation and articulation.

Defective speech is not a disease but a symptom, and it should be treated accordingly. Each case differs from every other case and should, therefore, form a special duty in itself. The problems presenting are: first, what is the character of the defect; second, what is the cause; and third, what shall be the treatment.

There are a great many kinds of speech defects, but it is probably impossible to make a satisfactory classification of them, at least with our present limited knowledge and experience. We may, however, divide them with reference to their causes into two general classes, namely, those of central and those of peripheral origin—the first depending upon some lesion of the speech centre in the brain, and the second upon some lesion or structural peculiarity of the speech organs themselves. But even this classification is not always an easy one, for the symptoms are very vague in their indications oftentimes, and it is only after careful and prolonged study that the original cause can be determined. For instance, take the case referred to me by Dr. Walter Webb of Sharon Hill, and which I reported in the Philadelphia County Society

in February of last year. A boy 19 years of age had never been able to speak intelligibly. He could not tell his name, and it was supposed by his physicians and all who knew him that his trouble was of cerebral origin. Indeed it was impossible at first for any one to locate the exact cause with any degree of certainty. The speech centre was abnormal of course, but was this abnormal condition due to some lesion of the brain itself or of the peripheral organs of speech over which the brain presides? I made a careful study of the case and, although his mental faculties were sluggish, I thought I discovered in them latent powers which might be aroused by the development of the faculty of speech. A thorough examination was made of the peripheral organs. The lips, the hard palate, the soft palate and the pharynx were normal, but there was a peculiar condition of the tongue. It was not a tongue-tie such as we usually find, but the tip of the tongue was a full inch or more too short, and the trouble seemed to be in the anterior fibres of the genio-hyoglossus muscle. It was decided to divide these fibres and an incision was made under the tongue for three-quarters of an inch in the antero-posterior direction and one and a half inches from side to side. The cut ends of the muscle were cauterized in order to prevent their growing together and to stop the bleeding. Frequent lingual traction was then made and exercises were given, directed toward a free action of the tongue and toward the development of the faculty of speech. Eleven months after the operation the patient was presented to the County Society and he recited Brutus' speech against Cæsar, far better, perhaps, than any one of you could do it. Not only was his articulation almost perfect but he had developed also considerable histrionic talent. Now, a year later, he is in the George School preparing for college, and the principal tells me that he is one of their brightest pupils. The cause in this case was, as the sequel has proved, a short genio-hyoglossus muscle binding the tongue to the floor of the mouth and making certain important movements of this organ not only difficult but impossible.

Another case illustrating the difficulty in determining the

cause of defective speech was a boy of eleven years who stammered. He was growing progressively worse and had to be taken from school. He was a bright boy intellectually, but practically dumb so far as his speech was concerned. A thorough examination was made of his organs and in them were found no less than three little irregularities, any one of which might give rise to this very serious affliction. The first in importance was an adenoid growth in the vault of the pharynx, which not only interferred with respiration but impeded to a certain extent the normal action of the pharyngeal and palatal muscles. The second was an elongated uvula; the third a slight asymmetry in the genio-hyoglossus muscle, the fibres on the left being somewhat shorter than those on the right, and this had the effect of giving the tongue a kind of one-sided action. In addition to the objective symptoms which I have named there were at times marked choreic twitchings of the muscles of the face.

After studying the case carefully for several days, I sent to his physician Dr. John Graham of Philadelphia, the following diagnosis: Chorea of the facial, lingual, pharyngeal and laryngeal muscles, due probably to adenoid vegetations; and I recommended the removal of these growths and the amputation of the tip of the uvula, to be followed by a systematic course of training for the purpose of correcting his habits of faulty muscular action both in oral and facial expression. This line of treatment was adopted, and the result was a complete cure inside of two months. The cause in this case was an adenoid growth, and the patient has not stammered since its removal.

Another case which I have under my care at the present time is that of a young man, 19 years of age, who has always stammered, and was growing worse. Examination of organs of speech showed nothing irregular except a slightly elongated epiglottis. I put him on a course of speech training for several weeks, during which time he made some improvement, but it was by no means satisfactory, and I have now instituted measures for the reduction of the size of the epiglottis. This treatment, however, has been too recent to show any results as yet, but I am in hopes that we have arrived at a solution of the problem.

The history of these three cases shows how difficult it is to determine the exact cause of these defects. In the first case it was undoubtedly a short genio-hyoglossus muscle; in the second an adenoid growth; but in the last case the cause is not so clear. It may be the elongated epiglottis, and if so, I shall expect my present treatment to remove the trouble.[1]

You will observe also from the foregoing histories that I try to arrive at the cause of these defects largely by the process of exclusion, and I attack only those parts of the organs of speech which present some anatomical irregularities or pathological conditions. It is interesting to find how slight a deviation from the normal will at times prevent the acquirement and development of good speech. That which is a pleasurable function under favorable conditions becomes irksome and difficult under slightly unfavorable conditions, and, therefore, when speech is delayed in children, a careful search for the cause should be made at once, and so far as possible all anatomical irregularities and physical obstructions should be removed.

These irregularities and obstructions act in two ways to delay or arrest the development of speech. They interfere mechanically with the free action of the organs, and also reflexly through the nervous system. They may act in either of these two ways separately or in both simultaneously, and the latter is probably the more frequent.

The removal of these irregularities and obstructions constitutes the first step in the treatment of these cases. The next and most important step is the mechanical training of the organs of speech. They must be trained to do things which they have never been able to do before and which the operation has now rendered possible. If the corrective operation could have been done in early childhood before the development of the habit of defective speech, then the special training would not be so necessary, but this habit, the result of years, it may be of faulty muscular action, must be broken up and

[1] The galvano-cautery was used in this case with very excellent results. The epiglottis is one-fonrth of an inch shorter; and now, two months after the operation, scarcely a trace of stammering remains, and during this time he has had no speech training.

removed by special and appropriate exercises. To do this we must have the co-operation of our patients. They must realize how great a calamity has befallen them, and they must be willing to try to throw it off. This co-operation I have not found difficult to get. Children of eight or nine years, and even younger, appreciate their misfortune sufficiently to make them willing to do almost anything to overcome it.

The exercises, moreover, are not difficult but rather agreeable to most people. There is a peculiarly pleasurable sensation, as I have suggested above, in the sound of one's own voice, especially when the organs are in good condition, and this sensation is an important factor in the early development of speech. The special kind of exercises required depends on the character of the defect. As there are no two cases alike no definite rules can be given. Develop the undeveloped parts by appropriate exercises; that is the secret of the whole process. Of course, to know the appropriate exercises and their application, presupposes some special knowledge of the mechanism of speech such as only the elocutionist or the singer may possess.

You will observe that I have considered only those cases of speech defect which are due to anatomical peculiarities or mechanical obstructions in the peripheral organs, and have only mentioned in passing those of cerebral origin. I have done this because I believe the former class has been greatly neglected and because I believe that very many cases which really belong to this class, and which if recognized could be cured, are relegated unwittingly to the cerebral class and, therefore, do not receive suitable treatment.

There is great need for further investigation in this line of work.

GELSEMIUM AS A REMEDIAL AGENT

By J. WARREN ROOP, M. D.,
OF HARRISBURG.

Mr. President, Members of the Medical Society of the State of Pennsylvania, Ladies and Gentlemen:—In the ten minutes' time allotted for the reading of this paper on "Gelsemium as a Remedial Agent," we must, of necessity, omit and pass unnoticed many points of value and interest to the medical profession in connection with this subject.

Gelsemium sempervirens (or, as sometimes less correctly called, gelseminum) is a native plant of the United States, growing on rich clay soil, by streams, near the coast, from Virginia to the south of Florida.

It is described as a climbing shrub, having a milky juice, opposite, lanceolate, shining leaves, forming an agreeable shade; and axillary clusters of from one to five large, funnel-shaped, very fragrant yellow flowers, whose perfume fills the surrounding atmosphere when in bloom.

The root is the part used in medicine, although the leaves and flowers are found to contain the same medical properties in less degrees.

Kollock, in 1855, by analysis, found the root to contain an alkaloid now called gelsemine or gelsemia, a dry, acrid resin. Eberle examined the root in 1869, and claims that the bark of the root contains the active medicinal portion. Professor Wormley, in 1870, discovered in the root a crystalline substance named by him gelseminic acid, whose solution in alkalies exhibits a powerful blue fluorescence. Since then, however, Sonnenschein has shown it to be identical with æsculin, a crystalline glucoside found in the bark of the horse-chestnut—*Æsculus hippocastanum*.

The active properties of gelsemium root have been proven by Bartholow and Wormley to depend upon the alkaloid gelsemine, which, in the pure state, is a colorless, odorless solid, readily soluble in ether and chloroform, less so in alcohol, and very sparingly in water, except in the presence of hydrochloric acid, and having an intensely bitter taste.

It is claimed that the readiest test to detect even the smallest traces of gelsemine is ceroso-ceric-oxide, which when added to a solution of the alkaloid in concentrated sulphuric acid will develop a cherry-red color.

The dose of the alkaloid gelsemine is $\frac{1}{60}$ to $\frac{1}{30}$ of a grain, larger quantities being dangerous.

The gelsemium preparation of the "United States Pharmacopœia," consists chiefly of resin, combined with uncertain proportions of the other constituents of the root, and is prepared by precipitation with water from a strong tincture.

The medical properties of the root were first discovered by accident, the infusion having been administered instead of some other root with the result of curing the fever for which it was taken.

In 1852, Professor Proctor called the attention of the medical profession to its valuable remedial properties. In 1864 it was placed on the secondary list of the United States Pharmacopœia on trial and approval, when it rose so rapidly in favor with the medical profession in the treatment of many and varied forms of diseases, that, in 1873, it was placed in the primary list of remedies.

It is more particularly valuable for controlling nervous irritability in periodical fevers of a malarial type in which it is claimed by some of the profession to excel every other known remedial agent. It has also lately attracted considerable attention as a remedial agent in certain forms of neuralgia.

The physiological action of gelsemium has been carefully examined by Murrell, Bartholow, Ringer, Ott and others of the profession, from whose investigations it appears to have a paralyzing action on the motor centers, affecting successively the third, fifth and sixth pairs of nerves; its fatal action being

due to causing paralysis of the respiratory muscles whereby death is produced by asphyxia.

The earliest and most prominent symptoms in large or dangerous doses—which vary slightly in different cases—are dimness of vision, double-sight, dilated pupils, drooping of the eyelids, inability to open the eyes, slow weak pulse, vertigo, congestion, diaphoresis, muscular relaxation and great prostration.

There are no well-recognized antidotes for an overdose or poisoning from gelsemium, and hence if I were called to a case of poisoning from this drug, I would unhesitatingly use nitrite of amyl, by inhalation or hypodermically, which acts instantaneously and more powerfully as a nervous and arterial stimulant than any other known drug. The antidotes, however, considered most useful are carbonate of ammonia, aromatic spirits of ammonia, brandy, morphia, electricity—preferably the galvanic current—or artificial respiration, until the poison is eliminated by the kidneys.

During my twenty-six years' experience in the administration of this drug alone and in combination with other drugs, I have used it either in the form of tincture or fluid extract, thousands of times in many and varied forms of disease without any toxic effects, and am fully convinced that it is one of the most valuable remedial agents in the materia medica, usually beginning to act in half an hour after administration, and ceasing to act in one or two hours.

By preference we administer the tincture of this drug as the safest and best preparation. It may be made by macerating four ounces of the fresh roots in one pint of diluted alcohol for two weeks; and given to adults in five-drop doses, and to children in proportion every half hour until the early physiological effects on the organs of vision are produced, and then reduce or omit one or more doses until these effects pass off, then to resume and continue the same as before, being careful to acquaint the nurse and patient when administering this drug of its effect on the eyes and of the necessity of a strict compliance with the foregoing rules of administration. With these precautions

strictly adhered to, there need be no fear of any dangerous toxic effects resulting from its use.

It is, however, usually necessary to push its use until slight dimness or double vision and a little drooping of the eyelids and dilation of the pupils supervene, in order to obtain the best results of this remedial agent.

In facial neuralgia and nervous headaches it has no rival, administered alone or in combination with muriate of ammonia. Combined with quinine it corrects the ringing of the ears and the headache often produced by quinine, so that the latter drug can be given to sensitive patients who are otherwise unable to take it; and, at the same time, it promotes the action of quinine in diminished doses, which consideration alone should cause it to rank high in the scale of remedial agents. In chronic cases of malarial fever gelsemium given in combination with liquor potassa arsenitis is also a valuable remedy, seldom followed by relapses. Given in small frequent or hourly doses, it will also relieve the cough in acute bronchitis. Acute muscular rheumatism is also amenable to this drug, the patient being put under blankets and three to five drops of the tincture being given every hour until free sweating is produced. Gelsemium, when combined with nux vomica, has a remarkable tonic influence on the spinal system of nerves. It is in this way that many nervous affections are cured which neither alone would effect. In this combination or in combination with bromide of potassium, bromide of ammonium or muriate of ammonium, it often cures neuralgias of nervous women and also relieves pain and tormina in the bladder and in diseases of the rectum.

Gelsemium, in combination with belladonna or morphia or of both, greatly increases their anodyne powers.

In irritable and inflammatory conditions of infantile life, in a quarter to half drop doses it is of much value.

In catarrhal, bilious and gastric fevers of childhood it is regarded by some as nearly a specific.

In irritability of the bladder, when there is a frequent desire to urinate, and the urine only voided drop by drop, the tincture affords much satisfaction.

The tincture of gelsemium, as a relaxant, in rigidity of the os uteri and sphincter perinei, and in puerperal convulsions, dysmenorrhœa and nausea and vomiting in pregnancy, will be found of great value. It also gives prompt relief in after-pains, and will be found a valuable substitute in this affection when opium or its alkaloids are not tolerated.

In the treatment of the nervous diseases of females in connection with many derangements of the pelvic viscera, gelsemium alone or combined with other indicated drugs will be found a valuable remedy.

In hiccough, the tincture of this drug will be found nearly a specific.

In acute cases of cholera infantum where there is irritation of the nerve centers associated with high fever, the tincture of gelsemium will be found valuable, alone or combined with bromide of potassium, and will often arrest the vomiting, diarrhœa and convulsions in this disease when other remedies fail.

In eruptive fevers of the sthenic type, where there is great irritation of the nerve centers, the tincture of gelsemium in small hourly doses, alone or combined with other indicated drugs, will be found valuable.

Noises in the ears are also arrested with gelsemium, the tincture diluted one-half with water, dropped in the afflicted ear.

It is also useful as a relaxant in renal colic. Gelsemium favors a re-establishment of the secretions through its influences on the skin, kidneys and gastro-intestinal tract, and consequently often precludes the use of purgatives. Its use alone does not disturb the digestive organs. It also arrests nasal secretions, and will be found valuable in nasal catarrh.

As a guide for the administration of gelsemium we may lay down the general rule that in diseases where we find a flushed face, bright eyes and contracted pupils, it is the remedy to use either alone or combined with other indicated drugs; and that in diseases where we find dullness of the eyes, dilated pupils, an expressionless countenance, feeble circulation and a tendency to congestion, its use is contraindicated.

Without consuming any further time, or pretending to

give a fuller range of the therapeutic applications that might be claimed for gelsemium as a remedial agent, we simply record our utmost confidence in this drug, in the diseases herein indicated, as one of the most useful, reliable and safest remedies in use when administered in the doses and with the precautions herein laid down.

As a final word, I would urge upon the profession a careful, unbiased consideration of this drug, and trust that you will be thereby better able to combat the diseases for which gelsemium is so eminently useful.

THE TREATMENT OF PELVIC INFLAMMATORY CONDITIONS THROUGH VAGINAL INCISION.

By E. E. MONTGOMERY,

OF PHILADELPHIA.

The route by which pelvic disease shall be attacked is one which possibly, more than any other, occupies the attention of the gynecological specialist. The routes commonly considered are the suprapubic and the vaginal. The former has been the one usually practised, and by many is still considered the elective. Its advantages, as asserted by its advocates, are that through a straight incision the pelvic organs are exposed to sight and touch, the dissection can be more complete, and greater security against accidents and hemorrhage obtained. Its disadvantages are the longer, more painful convalescence, more radical procedure required to meet some indications, drainage against gravity, infection of sutures and consequent abdominal sinus, abdominal cicatrix and possible ventral hernia.

The vaginal incision offers the advantage that it permits the pelvis to be explored, pus cavities in the broad ligament evacuated, tubal collections evacuated through the broad ligament without opening or soiling the peritoneal cavity; the uterus, ovaries and tubes may be removed where the disease is bilateral, drainage is from the most dependent portion of the pelvis, and the patient is spared the annoyance of an external incision with the sequelæ.

Each procedure has its champions, who exclude the necessity or wisdom of the antagonistic method. As is generally true, the truth lies between the extremes; both procedures have their place, and afford special advantages.

To better understand the purposes of the vaginal procedure, it is well to consider briefly the conditions we are called upon

to treat. Pelvic inflammation, in the great majority of cases, extends through the uterus to the tubes and ovaries. It should not be forgotten, however, that we may also have it extend by the lymphatics and blood-vessels. Thus, pus collections of large size may occur in the cellular tissue of the pelvis without the presence of tubal disease. Tubal disease resulting in pus collection may form a large sac of the tube, which may rupture into the pelvis and become encysted, or into the broad ligament, forming a large mass, either of which would be difficult to remove without rupture and consequent soiling of the abdomen. In many cases these collections are not sterile, and their escape into the peritoneal cavity endangers general peritonitis.

Few would assert the necessity for sacrifice of ovaries and tubes because they were offending only by being situated near a pus collection. Nor does it seem wise that the peritoneal cavity should be soiled by a pus collection which can be emptied by an incision through the vagina.

As inflammation develops in the tube, unless it rapidly extends to its parietes and causes adhesions, the inflamed tube from its increased weight gravitates lower in the pelvis and is frequently found in Douglas' pouch, filling up the retro-uterine space. A large collection, either posteriorly or laterally, can readily be reached and evacuated through the vagina without breaking down the barriers nature has provided against the invasion of the general cavity. The tubal sac can be opened up, irrigated, packed with iodoform gauze, and thus obliterated. It is to be acknowledged that this is not a sure cure; that pockets of pus may not be opened and the patient may have to undergo a subsequent operation, but the procedure enables us to remove the offending cause, permits the nutrition and general condition to be improved, in many cases will result in cure, while the danger to the patient has been the minimum.

In acute inflammation of the pelvic cellular tissue, where serous and plastic exudate is extensive, vaginal incision and drainage affords an opportunity to anticipate suppuration and free the patient from its dangers and remove the exudate before

its organization, which would otherwise result in the board-like floor that is so difficult to overcome.

Where the appendages of both sides are so destroyed by inflammation as to render their removal desirable or necessary for the future welfare of the patient, no one will deny that the uterus is an organ of but little subsequent value. With the removal of the appendages its function is dissipated. While it is recognized as subsequently a functionless organ, its retention does not fail to have an influence upon the future comfort of the individual. The cases are the exception where pelvic disease, whether in the tubes or cellular tissues, has not passed through the uterus. Not unfrequently, tubal collections will be found extending into the uterine end of the tube, so that to retain any portion of the tube is to retain infected tissue and endanger the recovery. Even if the uterus be free from serious infection at the time of operation, it is usually enlarged, contains inflammatory exudate, and in the subsequent involution its increased connective tissue imprisons and compresses the nerve filaments, producing hystero-neuroses which continue to render life uncomfortable after the removal of what seemed to be the pathological lesions.

Not unfrequently do we find patients, after the removal of both ovaries, continue to menstruate or have irregular hemorrhages and more or less profuse and offensive leucorrhœa. The retained organ may subsequently become infected or be the seat of malignant disease. These various sequelæ have become so well recognized that some surgeons have resorted to the supravaginal amputation of the fundus in such cases as require the removal of both ovaries.

It is recognized that by this procedure the operation is cleaner and more effectively accomplished. While the cervix thus left is probably the least offending portion of the uterus, it should not be forgotten that it is supplied with its own lymphatics, and retains enough of glandular tissue to be a ready source for re-infection. This is the portion of the organ most subject to the occurrence of malignant degeneration, and, in consequence, should accompany the remainder of the organ when the greater part is extirpated. The vaginal incision

affords a ready method for the extirpation of the uterus and its appendages.

While vaginal incision through the anterior fornix (anterior colpotomy) has been frequently done for removal of one appendage, and also for vaginal fixation, I do not believe it so satisfactory as would be the abdominal incision.

The form and extent of the vaginal incision will depend upon the situation and character of the disease. In all cases of drainage a free incision should be made. It is a mistake to make too small a puncture. The finger should enter and be used to break up adhesions and ascertain the presence of pus collections. All pockets which can be discovered should be opened, irrigated and packed with gauze.

Any operation should be preceded by rigid asepsis, and effort should be made to render the vagina as nearly sterile as possible. The vulva and vagina should be scrubbed with a two per cent. solution of creolin, to the quart of which ʒjj of tinct. green soap has been added. This is most thoroughly accomplished by wrapping the fingers with gauze. The superfluous solution is removed by irrigation with sterile water and the parts are then washed with alcohol. The cervix is seized with a double tenaculum, and where the incision is for exploration or drainage, an incision is made posterior to the uterus and broad ligament. If the mass is in the broad ligament, the latter may be torn through with finger and forceps and the collection reached without opening the peritoneal cavity. This procedure enables it to be reached without injury to either artery or ureter. The procedure may be expedited by an additional short incision near to the uterus on the affected side.

The pus cavity is opened, irrigated, preferably with hot saline solution, and packed with iodoform gauze. The vulva is covered with sterile gauze which is frequently changed. The packing may remain for three or four days, dependent upon the condition. Its removal is followed by irrigation and repacking, sufficient to keep the vaginal incision open.

The vaginal incision may be used for exploration in collections in the pelvis, from rupture of tubal gestation, and formatian of hematocele, for pus and serous collections, in the poste-

rior cul-de-sac. Pryor has lately suggested incision through the posterior fornix in retro-displacement with extensive adhesions. The adhesions are broken up, the uterus, tubes and ovaries loosened, and the uterus tilted forward and kept in place by a mass of gauze behind it, while another in the vagina pushes back the cervix.

Uterine castration.—The removal of the uterus and appendages, denominated uterine castration by Pean, is done for conditions which indicate the removal of both appendages. The operation is performed by making an incision around the cervix and extending it laterally behind each broad ligament. The bladder is pushed off anteriorly until the peritoneum is reached and opened, the posterior cul-de-sac is then opened, which leaves the uterus attached laterally. Through these attachments the blood-vessels enter. The uterine arteries on either side may be secured with ligatures or forceps, the cervix freed and amputated. The body of the uterus is then readily brought through the anterior opening, the ovaries and tubes rolled out, the remaining portion of the broad ligament secured, and the genital organs removed. Hemostasis may be accomplished by either ligature or forceps. The vagina is lightly plugged with gauze.

It is objected to this procedure that it is not thorough, in extensive adhesions, but it is not required to be. The uterus may be cut away, and if the tubes are very adherent and at all distended, they may be broken open and packed with gauze, and be permitted to become atrophied and obliterated.

A CLINICAL REPORT ON THE USE OF TESTICULAR FLUID INJECTIONS.

By F. SAVARY PEARCE, M. D.

OF PHILADELPHIA.

The subject of organo-therapy, like serum-therapy, has excited widespread dissension, obstinate objections, and, in the end, has been brought to a proper sphere in medicine.

The administration of thyroid extract in sporadic cretinism and myxedema gives, perhaps, the most clear demonstration to one's perception of any of these agents. Gull's and Ord's great pieces of clinical work in describing this widespread mucoid degeneration are now challenged by the ingenious minds of Horsley, Brown-Séquard, and others, that have worked out the cause, and the means of alleviating the malady. The use of extract of suprarenal bodies in Addison's disease has been reported favorably upon by such observers as Osler. In any event, organo-therapy can but aid disease transiently, giving at best only a partial substitute for complex nuclein bodies.

The evidence in thymus and splenic therapy is as yet contradictory. Bone marrow has proven efficacious in the pernicious anemias. The whole is an interesting field for thought. The nervous effects which sometimes immediately follow castration suggest the suspicion that with the testes the system may lose some tonic influence exerted by these organs (Dr. A. F. Cabot, of Boston). A subject with a high amputation of the thigh, perhaps, only escapes a persistent post operation anemia because an equal quantity of other bodily tissues are removed at the time of operation.

The above instances in organ-therapy maintain what is practically the *exhaustion theory* of the older writers, and *per*

contra, what amounts to the *retention theory*, or rather over production possibility, is demonstrated pretty conclusively in exophthalmic goitre. Dr. M. Allen Starr, in a recent contribution, forcibly upholds this view. In an article in the *Deutsche Med. Zeitung*, by Dr. Fletcher, 75 per cent of the cases of simple goitre so treated are reported recovered. This statement should be taken *cum grano salis.*

In seeking the *post hoc ergo propter hoc* more and more has been learned of the functions of these glands. It seems rational that there are *two* secretions from the testicles, *one* going into the system, producing the physiological glow of moderate chaste or controlled sexual excitement, the *second* secretion being, of course, the semen, with its contained spermatozoa for regeneration. Thus, while the thyroid has one secretion (a ductless gland) and the thymus, spleen, suprarenal bodies and pituitary have a similar internal secretion, no doubt, there is reason in supposing that feeding the tissues of an individual deficient in any one of them may be of service. So, too, testicular secretion may assist to buoy up a low tide of vitality and thus add to the normal body component. It must, indeed, take but a very small bulk amount of lessening of the suprarenal secretion to set up the great bodily metabolic change seen in that fatal dyscrasia, Addison's Disease.

If known better, these apparently slight disturbances, no doubt, are the causes of many of man's diurnal indispositions. The auto-bacterial, the ptomaine origin, and the leucomaine causes of disease become clearer as this broader view is admitted as a possibility ; yes, become as demonstrable facts in many cases of intestinal infection!

The literature of *Brown-Séquard treatment* has been (1) guesswork, (2) clinical experience and (3) scientific research. In the latter results, may be stated the findings of Poehl and Bubis as regards sperminum, a more widely distributed body (being found in the testicles, ovaries, thyroid gland, pancreas and spleen) which leads to the belief that the testicles are not the only source from which the dynamogenic agent producing cord stimulation, etc., is derived.

We cannot, therefore, subscribe to such clauses as " organic

extracts are physiologically inert and therapeutically worthless." These statements are, however, the earnest attempt to put down the flagrant misuse of this class of remedies, when cerebrine, medulline, cardine and the like, are so much advertised to produce "wonderful cures," which the newspapers of the land are so apt to foster.

Optimism and pessimism alike should be put out of court and a fair trial be given any new agent in the different progressing arts and sciences. In *physic* the happy medium will some day be determined, when the harmony of the chord of worldly existence shall have been struck, and life made the freer from ills during its existence. No man can give us an "elixir of life" to pass the race on beyond the allotted "three score and ten."

Brown-Séquard electrified the medical and non-professional world when, in 1890, he announced his belief that the testicles contained elements which tended to stay the inroads of old age; to rejuvenate the weakened constitution at any time of life. Ridicule was the final result. "With scientific zest this genius in medicine plodded on." In the past six years extravagant claims have been made for testicular juice, and on the other hand it has been written of and relegated to oblivion. As to practicability, this may some day eventuate.

The object of this contribution is, however, to state the therapeutic evidence as it appeared in an extended observation over several years in the private practice and in the clinical service of Dr. S. Weir Mitchell at the Infirmary for Nervous Diseases, in which study, with Dr. John K. Mitchell, it has been my privilege to assist. I am indebted to these gentlemen for permission to report the result.

In all, we have made personally some 500 injections of the Brown-Séquard Fluid. Many others have been made by the internes at the hospital.

1. Preparation.—Mr. Frank E. Morgan, Pharmacist, prepared the fluid as follows: The testicles of healthy bulls were immediately ligated and excised after killing of the animal. Under antiseptic precautions (the use of carbolic solution), the tunics were carefully removed down to and including the al-

buginea. The gland was then thoroughly macerated, placed in pure glycerine and allowed to dissolve for 48 hours. The whole was then filtered and a small extra amount of the liquid part of the residue added, to make a super-saturated solution. The mixture was then sealed in aseptic phials. It takes by this method about one large testicle to make an ounce of solution.

2. Method of Injection.—With a sliding cylinder, silver, vacuum syringe, the needle of which is of somewhat larger bore than the ordinary hypodermic needle, to allow for the free flow of the glycerine mixture, the injections were made in the outside of the upper half of the thigh, or in the deep tissues of the gluteal region (best) and occasionally in the arm Gentle massage was then given to favor dispersion and prevent local irritation which is sometimes troublesome. The needle puncture was then covered with antiseptic gauze or cotton. Other things being favorable, the patient was allowed to go about.

3. Frequency of Injections.—In the majority of cases, injections were given every other day, alternating the point of puncture from one side to the other. Where the patient could not be long under treatment or where we felt a more marked impression might be made, the injections were given daily.

4. Cases Selected.—The choice was not made as to any predetermined class of disease, further than in so far as extreme asthenia was an object point in the selection, and this the result of nervous maladies. Asthenia, therefore, prevented the indication for relief and, in consequence, teminal neurasthenias, especially of the sexual type, paralysis agitans, and the spinal scleroses make up the roll.

We will cite accounts of 25 of the cases treated, and then present a summary of the entire number of patients studied during this research.

Case 1:—Male, æt. 50. Profound neurasthenia past 4 years, result of "break-down" from overwork. Has been able to do but little work the past three years. Suffers from great prostration and tachycardia. Has had much treatment, of little avail and in very competent hands. Practically bed-ridden for past year. No organic lesion found. Sensation normal. r. b. c. 4, 566, 500. Placed on minim V < XV. At first the

fluid produced general stimulation. Much stronger in three weeks. Kept treatment up for several months after leaving the city. Letters showed when he left off the injections he relapsed.

Case 2 :—Mrs. H., 50 years, paralysis agitans, 9 years' duration, seen by Dr. Mitchell with Dr. J. H. Musser. She had a general tremor, festinate gait, extreme weakness. B.-S. injections three times a week produced a slight general stimulating effect. No relief of tremor, if any it was made worse.

Case 3 :—J. N., æt. 30, salesman, sexual neurasthenia. Denies tobacco excess or alcohol, and never had venereal infection. Masturbated in his youth. Now symptom complex was most harassing, viz. : extreme weakness, easily exhausted, pain in sacral region, nocturnal emissions, excessive "confusion of mind," "nausea." He lost 24 pounds the last 2 years despite all remedies used. The patient was given B.-S., which in 2 weeks produced much improvement. He then had a sense of well-being and a less gloomy outlook presented, and the mind became clearer. His color improved, and after one month, there being no demonstrable effect otherwise shown, the injections were discontinued.

Case 4 :—A. R., æt. 42, farmer, incipient myelitis. He had band-like tightenings about the legs and a feeling of a 2 inch wide belt around his abdomen. He had paresthesiæ of the legs but no anesthesiæ. No Argyll-Robertson pupil existed, but the knee jerks were capricious. His sexual power was much lessened. In January, 1895, this man was given 40 minims every day for a week, then every other day for the second week, when the following note was made by Dr. S. Weir Mitchell : "Clearly bettered as to stimulation of the cerebro-spinal system." There was especially marked increase of sexual power, even after the first dose, while on the fourth day he volunteered the statement that the sense of well-being and of binding about the waist seemed most relieved about four hours after the injection was given. It was on the sixth day of treatment that the sexual increase became most pronounced. Some nausea was produced at the end of the week, when the dose was reduced to 30 minims, given alternate days, as stated. After this the injections seemed to gradually lose their power for easing his distress. The positive pole of the galvanic current was next tried over the abdomen, but with ill success. The man was taken home, it being evident the inflammatory cord lesion was progressing. He returned to Philadelphia in the fall of 1895, rapid extension of myelitis having set in, and after complete paraplegia for several weeks, with extensive tropic changes, he died on February 2d, 1896. We found at necropsy widespread myelitis, extending even up to the cervical cord.

Case 5 :—An obscure case of A. H. M., æt. 42 years, bookkeeper, with objective and subjective vertigo with some months duration, the se-

quela of influenza. This illustrates the failure of B.-S. after a fair trial and the cure obtained by the use of increasing doses of iodide of potash. This unique case is reported in *The Philadelphia Polyclinic* for June 15th, 1895, and pathologically was probably an insidious meningeal inflammatory lesion.

Case 6 :—D. F., male, æt. 27, sexual neurasthenia. For three years has had "bad stomach spells" and anorexia, with "rush of blood to head." He had irritable bladder, frontal headache and vague distress in the vertex. Worries about his greatly weakened sexual power, and, as he says, frequent emissions. For six months previous has been under rest treatment. For nine weeks was confined strictly to bed; all of which availed nothing. Says the heat of the bed caused emissions to annoy him the more. Now has boulemia and gets faint if he goes a few hours without food. He has extreme lassitude, with marked emaciation; suffers from insomnia; a sad picture. There were no evidences of organic disease in the man. After other agencies failed, he was given B.-S. injections three times a week, but no benefit followed that we could detect.

Case 7 :—Male, æt. 28, combined sclerosis. Had had a chancre three years previous, but without secondary manifestations. For past year had "spells" of vomiting, headache, with, at one time, a transient external strabismus. About this time, too, he had delusions of "house on fire," and then fell into general clonic convulsions with unconsciousness. This last followed a debauch. In the past eight months marked ataxia presented. His knee-jerks were much increased; the contra-lateral reflex was well marked. Muscle jerks and elbow jerks were increased. He had the Argyll-Robertson pupil, and ataxia of the hands and legs. B.-S. injections made him feel stronger and checked his rolling gait. At the end of twelve days, the marked beneficial action was stayed. At this time a violent syphilitic explosion occurred and a roseolar rash appeared with absolutely complete alopecia. Inunctions of mercurial ointment and increasing doses of bichloride of mercury soon ameliorated this complication, and the hair about as rapidly came in again. This is an example of benefit of the B.-S. treatment for a short time in an incurable case. What the injections had to do, if at all, with the specific re-manifestations does not appear. Its irritant action upon the latent disease, syphilis, may possibility have awakened that poison into activity.

Case 8 :—Miss M. D., æt. 38, school teacher, sexual neurasthenia. Had been under rest treatment eleven months in The Infirmary for Nervous Diseases, all other measures for relief having this far been futile. Her weight was reduced to 96¼ pounds. She had always been a weakly child, menstruated at 14 years of age, and was a sufferer from amenorrhœa and dysmenorrhœa. At 21 years of age she felt a "sudden snap" in the abdomen. Collapse followed. Several months after admission she admit-

ted having masturbated, which may have explained this phenomenon mentioned. At 25 years of age she had pleurisy, and undoubted tubercular scars are now found over the tibiæ. At 29 years of age multiple neurasthenic vagaries, made up the syndrome of her deplorable symptoms, namely, anorexia, insomnia, backache, palpitation, head-distress, constipation. At this time, too, she was placed in a New York Hospital for anteversion of the womb, and wore a Thomas cup and stem pessary, later changed to a ring pessary ; all of which gave but little relief. In fact, every known measure had been resorted to and the case seemed hopeless for the past decade. She was placed on a pill of Silver Nitrate and Ext. Hyoscyamus, each grains $\frac{1}{4}$, by Dr. F. X. Dercum, during the summer, and later upon stychnia and chiretta. These temporarily helped the patient. She was finally placed on B.-S. injections three times a week, and declared her gone feeling, head distress and morbid fears were lessened after the second treatment. The interne noted that upon the whole she was now much improved by the injections at the end of the month. They were then discontinued for a time and again used in order to study the effect of the remedy more thoroughly. After nine months treatment, the patient volunteered the statement that nothing did her so much good as the injections. This was a fair test and decision. The next oncoming interne made a note that pseudo injections of aquæ puræ given *solatii causa* acted as well as the B.-S. fluid. Personal equation must be admitted in accounting for this statment, as in judging any other remedy we may have our unconscious prejudices. For this reason the case is given *in extensio*, the final judgment being that the Brown-Sequard injections were for temporary good in this neurasthenic woman.

Case 9 :—J. D., male, æt. 45, non-specific bulbar palsy, late stage. Seven injections produced no sense of stimulation, although his general condition and physiognomy improved very much.

Case 10 :—F. B., male, æt. 35, paralysis agitans, late stage. Weight 121$\frac{1}{2}$ pounds. The man was first put on thyroid extract, grains 5, three times a day. This did not affect the pulse or temperature perceptibly, but aggravated the tremor. The man was permitted to go without treatment until he returned to his former state. He was then placed on B.-S. injections. After the second one, it was noted " tremor is less, feels stronger, and sleeps better." The injections were continued three times a week (dose, minims 30), up to the time of his discharge from the hospital, at the end of ten weeks. He went out able to walk much better than when admitted. The tremor was not, on the whole improved. It is doubtful in this case if the rest in the ward was not the chief means of bettering the patient's condition. Hyoscyamus was one of the many remedies that failed *in toto*.

Case 11 :—Miss E. G., æt. 40, terminal neurasthenia, sciatica, etc. She

was always a feeble child, later nursed her invalid mother for 11 years, and finally broke down completely after her death. This woman had been under the care of competent physicians in Ohio and no relief resulted. She was under treatment of The Infirmary for Nervous Diseases, where, as interne, I was able to observe this most distressing case, with symptoms "too numerous to mention." A cachexia made us suspicious of cancer. Her sciatic nerves were stretched by Dr. W. W. Keen, relieving persistent sciaticas, but the syndrome of anemia, nausea, palpitation, crying spells, resisted every measure adopted, including lavage towards the chronic acid dyspeptic symptoms. The patient was given B.-S. injections for a time and insisted upon a sense of well being soon after and the day following each injection, especially of a lessening of the sciatic pains—"twinges." Her pulse certainly became fuller for the time. She was sent to The Presbyterian Hospital Convalescent Home. I am informed the woman died, and diffuse carcinoma of the stomach, undemonstrable by palpation during life, was discovered at the autopsy.

Cases 12 and 13, of late state insular sclerosis, derived no benefit whatever from Testicular Injections.

Case 14:—Æt. 60, incipient lateral sclerosis, with spastic gait and greatly increased reflexes everywhere. After the seventh injection asserted that she could "lift feet better." The improvement here was subjective only and lasted but a few weeks. This was a case in which the B.-S. produced decided irritation but no abscess.

Case 15:—J. W., æt. 43, colored barber, with some white blood in his veins; a case of locomotor ataxia in the early stage. He had had syphilis ten years previously. *Status presens:* General nutrition fair; station and gait not markedly abnormal, no Romberg symptom. The knee jerks were absent and not reinforcible. There was slight girdle sensation and there was difficulty in ascending the stairs. There was paresthesia of the extremities and pin point Argyll-Robertson pupils. He was placed on bichloride of mercury for a short period, and then on the B.-S. injections. This man suffered more from general lassitude and backache while at work on his feet. He took twenty-four injections at two different times at the clinic and insisted upon feeling stimulated to his work during the treatment. There was no noted objective improvement, and at no time was there sexual return. This man was, for a time, also given an equal quantity of aquæ puræ which the resident thought did him as much good as the B.-S. Recently the patient has again been receiving the injections in his arm and I examined him at his work to-day (March 19, 1896) when he affirms the feeling of general stimulation and is doing long hours of duty daily with more ease than he did one year ago, when first seen. It is interesting to mention that this exceptional case of locomotor ataxia in a colored person is the proof of the rule of its rarity in the African.

Three cases of chorea minor, occurring in colored children, have already been recently seen as a like proof that Sydenham's Disease is extremely uncommon in the black race.

Case 16 :—A., æt. 60, male, ataxia, well advanced second stage. Knee jerks absent for five years. Romberg symptom is marked; pupils do not respond to light and but moderately to accommodation. He has but little pain or girdle sense, but complains of great weakness of the extensors of the thighs, so that it is with great difficulty he mounts the stairs. B.-S. injections were absolutely without noticeable effect. This is the first case in which we had an abscess developed.

Case 17 :—A. B., male, æt. 25, ataxia, late stage. He presented anomalous throat crises. His pupils were inactive, and Dr. G. E. de Schweinitz reported the optic discs to be normal. Dr. J. Solis-Cohen reported paresis of the left local band muscles. The queer choking attacks (eight or ten in all) would last about ten minutes when the man was in danger of death at that time. He was in a truly pitiable paretic condition. During these throat crises, it was observed in the ward, he acted much like a croupy child with the addition of the extreme pain mentioned. This man had twenty injections of B.-S. with but little effect, when it was abandoned. It is doubtful if anything could be of service in such a case.

Case 18 :—H. S., æt. 49, Hebrew clothier, locomotor ataxia of anomalous type, in that he had no ataxia and no girdle sense, but for six years had had shooting pains in his legs, sometimes in one, sometimes in the other, sometimes in both at once. His knee jerks were absent and Dr. Thomson examined the eyes and reported vision perfect. No fundus lesion was found. His pupils were pin point in size, their reaction was *nil.* He had severe left temporal pain. At present, the pains described are present night and day, and for this and the insomnia existing he has been and is taking taking large doses of paraldehyde, with occasional morphia, which later has made him extremely constipated. The B.-S. injections had absolutely no effect on the pain, and during their use the patient became more distressed and bowels even more torpid. Indeed, the pain seemed to be aggravated by the irritation produced around the seat of needle puncture.

Case 19 :—A. B., æt. 48, ataxia, late stage. His height was 6 feet, and weighed 175 pounds. He denies syphilis, and has not been an alcoholic. Complained for twenty years. Has been recently glassed under the care of Dr. Knapp. His knee jerks and elbow jerks are absent. He is very unsteady in his gait, and sways badly when standing with his eyes closed. He has transient stabbing pains, chiefly at night. He is impotent; appetite is good, but bowels very costive. B. S. injections three times a week caused very marked stimulation of the sexual function, so that the man had erections, which were rare for him.

Case 20:—S. M. F., æt. 43, superintendent of an iron works. Very early stage. He has two healthy children, and denies having had syphilis. He dates his trouble from twelve years ago, when he was a sufferer from nervous prostration, the result of overwork. In the past year he has been complaining of pain all over his body, at times like "flowing lava," at other times it is dull; and he is never free from pain. Some months ago he had diplopia, which has now disappeared, but he has the Argyll-Robertson pupil. Knee jerks are absent. There are no palsies. Gait and station are fair for an ataxia. Dr. C. A. Currie, of Germantown, with whom the patient was seen with Dr. Mitchell, writes, that he gave the man fifty-one injections from April 17th to November 3d, '94, on alternate days. It was not used for a time during this period. The final report is as follows:—"Twenty-five minims acted as well as more in this case. Taken altogether he has been more free from pain, which is more limited to his right arm. One peculiarity which has been noticed, not only in this case, but in two others, has been the fact that the injection itself has caused more burning pain in one side than was given in the other. In this case it has been the right side, whether given in the arm or thigh. The first twenty-five injections were given in the arm, the remainder in the thighs."

Case 21.—S. E., æt. 50, Hebrew. Ataxia, well advanced, second stage of the disease. He has always been a hard-working business man, financially successful. He has never had syphilis. He has been treating for so-called rheumatism for the past five years. Dr. de Schweinitz reported beginning optic atrophy; Argyll-Robertson pupils. His station and gait were bad, and his knee jerks were absent, and he had much shooting pain in the legs and suffered from persistent insomnia. This man has been put on increasing doses of strychnia by Dr. J. K. Mitchell, up to three-fifths of a grain daily. When we started the B. S. injections, he was given fifteen minims daily. At once he spoke of the general stimulation following shortly after a treatment. He began to walk better; there was improvement in the pain in his lungs, in his sleep, and in his station. His strength improved very much. He went to his home in the West a few weeks later with instructions to continue the remedy which his doctor had carried out with benefit.

Case 22:—J. E. W., locomotor ataxia, sudden onset. (Locomotor ataxia in wife.) This rapidly developing case has been reported in the Journal of Nervous and Mental Diseases, for January, 1895. The B. S. injections helped him for a time. At the third treatment he expressed a sense of "can do." At the fourth treatment he certainly was much stronger than before. He had a wet dream that night, unusual for him, and forced his urine better than formerly. At the end of three weeks he developed a severe diarrhœa and nausea, the result of minims thirty of

the fluid given three times a week. After a time the remedy lost its former good effects. The patient was discharged with orders to, after a time, continue it. In the interval bichloride of mercury and iodide of potash was prescribed, which produced no demonstrable good. Recently he has been taking some nitroglycerine preparations. This man I examined here to-day, and have re-prescribed the remedy with the hope of temporarily stimulating him to renewed gain, as it had acted so well in the beginning. He is holding his own.

Case 23 :—A. H., æt. 42, ataxia, paralytic state. He broke down in 1887, and later was able to be on half duty in a large business for two years, since which time he has been helpless. He presents a typical case of a late stage of the disorder. Has severe lightning pains in the limbs, for which he has become addicted to the use of morphia up to 1893. Since this time he stopped the morphia habit up to three months ago ; that is, in September, '94. His sexual power has been *nil* for many years. He has no appetite; is constipated, anemic. Red blood cells numbering 3,300,000, and hemoglogin registering seventy-five per cent.

Injections as follows:—1894, December 7th, minims 20 ; December 9th, minims 30 ; December 12th, minims 35 ; December 14th, minims 40 ; December 17th, minims 45 ; December 20th, minims 45 ; December 24th, minims 50 ; December 30th, minims 55 ; 1895, January 2d, minims 60 ; and this latter dose was continued until the 24th of January.

Resume : After the first injection there was a sense of sexual stimulation that night with an erection and seminal emissions, something not had in many years previous. We made this note before the second injection ; pulse 112 per minute ; and one-half hour after the injection he felt toned up, and the pulse beat recorded 104 per minute, and was full in volume. From this on he had " wet dreams " every three or four days during the time of treatment, given above, and always with erections ; which lent much cheerfulness and hopefulness to him in his incurable malady. There can be absolutely no doubt of the effects of the drug *per se* in this case.

Case 24 was a case of prolonged neurasthenia in a professional gentleman, where we had our second abscess develop, and where the remedy did not seem to be of service.

Case of locomotor ataxia, much improved under B. S. treatment.

Case 25 :—Locomotor ataxia, late stage, L. E. F. male. (Notes of Dr. Canby, in charge of the patient for closer observation.)

No. 1. January 16th, 1894. He commenced taking injections of B. S. Up to this date had made but little improvement under general treatment. Patient has all the typical signs of the disease. Walks with difficulty ; has marked vaso-motor relaxation of vessels of nose and face. The first injection consisted of minim x B. S. fluid with equal quantity of aquæ puræ given under strict antiseptic precautions.

No. 2. January 19th. M. x B. S. with equal parts of distilled water.

No. 3. January 22d. M. xv B. S. with equal parts of distilled water.

No. 4. January 24th. M. xv B. S. with equal parts of distilled water.

Patient begins to show improvement ; feels stronger ; appetite is better ; gait is less ataxic ; has had no return of shooting pain in legs since commencing injections. (The weather during the last week rainy with easterly winds, and had formerly greatly distressed him). Much improvement in vaso-motor relaxation occurred. Electrical reaction of muscles to Faradic current became quicker.

No. 5. January 26th. M. xv B. S.

No. 6. January 28th. M. xv B. S.

No. 7. January 30th. An injection of M. xx B. S. was given, with equal parts of sterilized water. This caused considerable restfulness and insomnia.

February 1st. M. xv B. S. fluid.

No. 9. February 3d. M. xv B. S.

No. 10. February 5th. M. xv B. S.

Previous to injection patient suffered from eye strain on reading for more than half an hour. Can now read two hours without difficulty.

Previous to taking injections, patient had had no erection for the past eight (8) months. After the fifth injection feeble erections took place the following morning, and then after each succeeding injection, gradually becoming stronger, until at the present date (February 11th, '94) patient thinks erections are nearly normal.

No. 11. February 7th. M. xv B. S. Erection the following morning.

No. 12. February 9th. M. xv B. S. Erection the following morning.

No. 13. February 11th. M. xv B. S. Erection the following morning.

Patient shows great improvement both in his ataxic and general condition. Vaso-motor relaxation has disappeared. Station much improved ; walks easily and without cane at night. Electrical reactions normal.

This man remained under observation indirectly for many months, and showed a continuation of his greatly improved health from the incipiency of the treatment which the Brown-Sequard injections had brought about.

Conclusions from an analysis of the above paper.

Males treated, 30 ; females, 10.

Diseases Treated.—Locomotor ataxia and sclerotic cord diseases ; paralysis agitans ; neurasthenia, especially of the sexual type.

Injections were given under strict antiseptic precautions in the thigh (best) or buttock. In the 500 injections given by Dr. John K. Mitchell and myself we have had but two abscesses.

Passive massage of the part should always be done to encourage diffusion, and thereby prevent irritation.

Average amount of injection that seems to act most advantageously is between 20 and 30 minims diluted with *aquæ puræ.*

Time of Injections.—Every other day is perhaps most desirable, in order to prevent irritation which very often occurs.

If pushed, the point of endurance of the testicular fluid is shown by nausea, vomiting or diarrhœa.

In the 19 cases of locomotor ataxia treated, 16 cases were in males, of which (11) eleven seemed to be stimulated to at least temporary improvement by the remedy. In (5) five no result was obtained. In one, injections of water acted the same as the Brown-Séquard injections (psychic). A large proportion of these ataxias were in the advanced stage of the disease and sexual power much reduced, or, indeed, impotence existed. Of the eleven (11) male ataxic cases improved, the effect was of a general stimulation of the nerve tonus, described by the patients as a sense of "well being."

There was an ease of breathing and increase of pulse force as though the respiratory and cardiac centres were buoyed up to more active work. In some ataxias increasing muscular strength and coördination was attained, those patients being able to endure more exertion. This was especially noted in *No. 22* (male) who persisted that he could feel the stimulation "creep over" him as early as 20 minutes after an injection. He finally had nausea and diarrhœa due to the effects of too large dosage.

Pain was somewhat lessened in three (3) cases of ataxia and along with the general stimulation and bettered coördination in the eleven (11) males quoted, there was in addition in four of them (as seen above) *very marked* increase in sexual power and general comfort. It may too, transiently open more widely the blood paths about a sclerosed area, and thus produce the tendency toward cure noted.

The above series of ataxic cases present positive results. The remaining cases did not carry out the treatment, or else it proved inefficacious; in both of which instances they are classed together as failures.

From the above cases it cannot be concluded that the effect of the testicular extract is to *mainly* produce sexual increase, but, rather that the sexual excitation falls in line only with the general cerebro-spinal stimulation; but not always so.

Some indeterminate individual defect in constructive metabolism probably accounts for the inaction in those special cases, or else the sexual centres in the cord are much more depressed in functionating than we know.

What is most clear in any of these cases, in which we have used the drug, is that a general stimulation is the most frequent method of its use for good.

Dr. Mitchell recalls, in addition to the above cases, two old men in which B. S. was used, who were much stimulated, and in them, too, the sexual power was much excited; in one of them so much as to prove annoying and "very inconvenient."

Resumé.—The Brown-Séquard treatment has proven of stimulating and rejuvenating power in disease of chronic nature, where nerve energy is at a low ebb, whether in organic or in so-called functional neuroses; and these, aside from "psychical influence." The effect may be to increase oxidation or to supply something the body needs, as in other effective organotherapy, and thus furnish a temporary tonic to the system until equilibrium is established The testicular juice acts: (a) By general cerebro-spinal stimulation mainly. (b) It at times relieves pain and crisis in organic cord disease. (c) It may greatly stimulate the sexual function. There can be no claim for it to act as a cure *per se* in any malady. It may prove one of the "aids" toward recovery from the vicious circle of disease. Cases cannot be selected for anticipated good from the treatment. By accident and experimentation only may a case be found which proves its great efficacy, and it then buoys the patient up and paves the way for other therapeusis to take hold.

It is not intended to laud the remedy but to present the clinical evidence of its limited usefulness in disease.

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SOME THERAPEUTIC USES OF GUAIACOL.

By J. M. ANDERS, M. D., L. L. D.,
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That guaiacol is a valuable medicinal agent is allowed by all observers who have employed it in suitable cases. The complaints in which it is serviceable are divisible into three groups, which will be considered separately.

Group (1).—*Febrile affections.*—These are acute and chronic. Of the acute febrile diseases in which it has been used, typhoid fever and the pneumonias—lobar and lobular—stand foremost. It is an antipyretic when applied to the skin in proper amount; and according to the experiences of some of the physicians who have thus used it most extensively, it is practically free from unfavorable effects.

Dr. H. G. McCormick has applied guaiacol more than eight hundred times in typhoid fever with uniformly good results. He has occasionally observed chills; but these were noted when the temperature, as the result of a topical application of guaiacol, dropped below 100° Fahrenheit, and they were not followed by increased fever nor increased weakness. The occurrence of rigors is, according to this observer, a certain indication that the dose has been too large, and hence should be lessened immediately.

On the other hand, while I have used guaiacol in but two cases of typhoid fever, in one of these its application was attended by rigors both on the thirteen and sixteenth days of the affection, followed by a rapid rise of temperature to a higher level than the previous maximum temperature. Rosenthal, of Philadelphia, has observed a similar effect in a case of typhoid fever. Thayer has also reported marked chills from its use. Still other observers have noted a decided weakening effect, when guaiacol was employed as an antithermic agent. But

though guaiacol does not possess the obvious and numerous advantages for the typhoid patient that the Brandt method does, it may very properly be employed in cases in which the cold baths cannot be instituted on account of the existence of insurmountable prejudices or contraindications to them, such as intestinal hemorrhage, acute nephritis, etc.

Its internal administration in the form of the carbonate of guaiacol in typhoid fever is to be highly recommended since it reaches the intestinal canal before it is disassociated or resorbed. I have had no personal experience with guaiacol internally in the treatment of typhoid fever, but have used it in and acute chronic forms of intestinal catarrh, accompanied by fermentative processes, with highly excellent results.

In a paper previously published may be found the report of a case of broncho-pneumonia in which this antipyretic was employed externally (in doses of ʒ ss), the patient making a rapid recovery. The applications of the remedy were not followed by so marked a reduction of temperature as in the cases of typhoid. More recently, I have used guaiacol in two additional cases of broncho-pneumonia with like results. It would appear from my own observations, that fever dependent upon local inflammation is to a less extent reduced by guaiacol than when due to more general causes.

Pulmonary tuberculosis is the one chronic febrile disease in which guaiacol has been frequently employed.

J. S. Cohen has noted a striking reduction of temperature following its external use in pulmonary tuberculosis. I have employed it in a few instances of this disease quite recently, and whilst it has reduced the temperature decidedly, the profuse sweating and occasional debilitating effects induced by the remedy have led me to abandon its employment in this affection.

Group (2).—The second division of cases are the non-febrile. These embrace chiefly myalgia and neuralgia. As stated in my former paper, the local physiological action of guaiacol is that of a decided sedative. Thus, when administered internally it allays the irritability of the nerves terminating in the gastric mucosa. In the paper referred to, there are reported

cases of gastralgia successfully treated by guaiacol, given in doses of two or three minims, combined with glycerine. Later observations have confirmed the favorable opinion previously expressed as to the value of this agent in gastric hyperesthesia or irritation of the sensory nerves of the stomach, when cautiously used.

Ferrard first employed this drug in sciatic and other forms of neuralgia (painting it over the course of the nerve, mixed with an equal part of glycerine).

Eight cases of neuralgia in which guaiacol was the chief reliance I have reported elsewhere. In three of these the drug was exhibited hypodermatically, the dose being one or two minims combined with ten minims of spirits of chloroform. I can now add the results obtained in four additional cases of neuralgia, treated in this manner. To be brief among them, two affected the supra-orbital branch of the fifth pair, one the intercostal nerves, and one the left sciatic nerve. In one of the cases of supra-orbital neuralgia there was a distinct history of antecedent malaria, hence, quinine (gr. 20 daily) was exhibited *per orum*. Additionally two minims of guaiacol and ten minims of chloroform were administered simultaneously at the point at which the nerve emerges from the deeper structures. This was repeated after twenty-four hours, when the pain ceased permanently. In the other case of this form of neuralgia no special causual factors (except, perhaps, exposure to cold and wet) could be ascertained. Here it was necessary to inject the guaiacol twice daily for two days before permanent relief was obtained.

The case of intercostal neuralgia in which this agent was employed arose in an anemic and neurasthenic female. Besides the means—internal and sanitary—usually resorted to in such cases guaiacol was applied externally during the first week, with the result of affording only temporary relief. Subsequently the guaiacol was exhibited hypodermatically. After the fourth puncture the pain yielded, and has not since returned. In the case of sciatic neuralgia injections of guaiacol failed to cure, but greatly relieved the pain when administered at intervals of eight or ten hours.

Thus, eleven (11) out of twelve (12) cases of neuralgia were successfully treated by the use of guaiacol. In one-half or six of the instances the drug was used hypodermatically, with five cures. In some of the latter the pain showed great obstinacy, and was not relieved by the external use of the drug, but yielded when it was injected subcutaneously.

Muscle pains due to cold, old sprains or rheumatism are also promptly relieved by the local use of guaiacol. To illustrate, I may be allowed to mention briefly a case of the sort thus treated:

A. W., æt —, was admitted into the male medical wards of the Medico-Chirurgical Hospital, April 26th, 1896. The patient possessed to a marked degree the gouty diathesis; he had previously suffered repeatedly from acute attacks of the disorder. Four years prior to the day of admission he began to be troubled with lumbar pains, which at intervals appeared to undergo improvement, but, on the whole, steadily increased in severity, despite treatment of various forms. At the time of admission into the hospital the patient was unable to stand erect. The spinal interosseous muscles seemed to be involved in equal degree with the lumbar. During the first three days of his stay, guaiacol (f ʒ ss) mixed with an equal quantity of glycerine, was applied to the lumbar region twice daily. These applications were followed by relief lasting two hours. Subsequently, I requested the resident physician, Dr. Roberts, to inject the remedy directly into the lumbar muscles, employing the formula previously given. The patient was immediately relieved. At the present time, or three weeks after this mode of treatment was commenced, very little pain is complained of, and the patient's carriage is decidedly more erect. From present indications a cure may be expected.

Group (3).—Other observers, as well as I, have employed guaiacol externally in acute, sub-acute and chronic forms of rheumatic inflammation, and whilst the remedy is powerful to relieve the pains occasioned by these conditions, it controls neither the inflammation nor the fever to any appreciable extent.

A few inferences may, with a view of facilitating a discussion of the subject of the therapy of guaiacol, be here stated and emphasized:

(1) Guaiacol, when employed in febrile affections, reduces effectually the temperature; but it may cause objectionable effects, as profuse sweatings, and rigors followed by high temperature.

(2) In sub-febrile and afebrile conditions it produces no noticeable lowering of temperature and no unpleasant effects, in my experience.

(3) Guaiacol is an effective local analgesic, being especially potent when administered hypodermatically.

(4) Guaiacol is "powerless to control inflammatory processes, particularly when acute in character."

THE OPERATION OF SUPRA-PUBIC CYSTOTOMY.

By R. W. STEWART, M. D.,

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The operation of supra-pubic cystotomy is indicated in selected cases of vesical calculus, where the stone is too large or too hard to crush and remove in the operation of litholapaxy, or in the modified operation of crushing a stone by means of instruments inserted through a median perineal incision. This operation is also frequently the one we should adopt in the removal of neoplasms from the bladder, as well as in the operative treatment of prostatic growths, and as a means of treating cystitis by establishing drainage; it is also one of the methods by which we treat impassible strictures and ruptured urethra.

The general adoption of this operation has been deferred by its being shrouded in the minds of the profession by dangers and difficulties which, to say the least, are often chimerical. It is of all the major operations the surgeon is called to perform, one of the very easiest, provided the operator will bear in mind certain fundamental rules or principles in the technique of the operation, which the writer will endeavor to emphasize in this article. It is equally important that the operator should ignore certain long and generally recognized principles around which the operation has hinged, but the observance of which has simply added to the difficulties without diminishing the dangers of the operation. I refer chiefly to rectal distension as a means of elevating the bladder and increasing the space between the upper border of the pubic bones and the vesico-parietal peritoneum, also the danger of opening the peritoneal cavity. As regards the latter, if the technique I will describe be followed, the peritoneum may be ignored, as the operator will never come in contact with it. If we remove

this danger it is obvious that rectal distention is unnecessary and its use inadvisable, as it complicates the operation and is of itself a source of danger, since fatal results have followed from rupture of the rectum. If it is necessary to elevate the floor of the bladder for any purpose, this is best accomplished by the finger of the assistant inserted within the rectum.

The technique of the operation is briefly as follows: The lower bowel having been previously emptied by enemeta, the pubes shaved and the patient anesthetized, the bladder should be washed out with a solution of boracic acid. This is best accomplished by suspending a bag or bucket containing the solution about three feet above the patient and permitting the solution to enter the bladder until it is full, when the fluid is allowed to escape; this is repeated until the escaping fluid is perfectly clear. The solution is then permitted to refill the bladder and an assistant retains the catheter and washing apparatus in such a manner that when the fluid escapes through the supra-pubic opening more fluid will immediately re-enter through the catheter. The patient should then be placed in the Trendelenberg position and the operation begun.

Standing on the left side of the patient the operator should make an incision in the middle line, extending from a point half an inch below the upper border of the symphysis pubes, to a point two and a half inches above the pubes. This incision should cut through the skin and fascia, exposing the muscular aponeurosis. The finger now feels in the lower part of the incision for the notch which marks the upper border of symphysis pubes. At this point the knife is boldly thrust inwards until its point is arrested by the cartilaginous junction of the pubic bones. It is advisable to expose this part early in the operation for it is easy to find, and the incision may be carried down to it with a total disregard for the abdominal contents. It is also the principal landmark in the operation, for it marks not only the lowest limit of the dissection, but its exposure divides the muscular aponeurosis, and separates the tendinous insertion of the recti muscles. The aponeurosis is now divided the entire length of the wound and the recti muscles separated with the handle of a scalpel. Retractors should be used to

separate the margins of the wound which exposes the transversalis fascia, at which point the dissection ceases. The right index finger should then be insinuated at the lower angle of the wound, *hugging closely the inner surface of the pubic bones;* if this is done the peritoneum may be disregarded. In sixteen operations where I have followed this plan, I have never in one of them seen the peritoneum, nor considered myself at any time in dangerous proximity to it.

As the finger approaches the lower border of the symphysis pubes it lies in contact with the anterior surface of the bladder, which at this point is covered with fatty tissue and a plexus of veins. The fluctuating bladder should be distinctly felt. If there is a doubt about it, an assistant should pass a finger into the rectum and press the bladder forward, which will readily determine its position. The bladder wall is then fixed by thrusting two tenaculi through its most prominent part. A narrow bladed knife is then thrust, cutting edge downward, into the badder between the tenaculi and the incision carried downward to any desired extent, which will be determined by the nature of the case and the requirement for intra-vesical manipulation. During the time that the bladder is open it should be continually flushed with the boracic acid solution, this serves to keep not only the bladder and the wound clean, but also to keep the field of operation from being obscured by blood.

The question of suturing the bladder has long been a debateable one and is not yet settled. If there is a marked cystitis with putrid urine, an incision is not likely to heal, except by granulation. The advantage to be gained by primary union of the bladder incision is, however, so great that an effort should be made to obtain it in all cases except where the septic conditions present are such as to preclude all possibility of obtaining primary union, or in those cases where the limited extent of the incision, aided by the retention of a catheter in the urethra, renders suture of the vesical walls unnecessary. The upper and lower angles of the wound in the abdominal wall should be sutured and a pledget of iodoform gauze loosely inserted into the prevesical space, and the ordinary dressings

for a laparotomy applied. In all cases where the badder wall is sutured, it is advisable to retain a catheter in the urethra and drain the bladder by this means for several days.

The brevity of the time alloted to me restricts this article to the narrowest limits, but before closing I desire to draw attention again to the necessity of first exposing the upper border of the symphysis pubes and hugging the inner surface of the pubic bone, as the finger is insinuated at the lower angle of the wound. If these two points are kept in view the bugaboo of the peritoneum will vanish, and the necessity for rectal distension will not exist. In fact the operation may be almost as readily done in the empty as in the distended bladder.

SOME REMARKS ON PERFORATION OF THE NASAL SEPTUM.

By CARL SEILER, M. D.,
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Perforation of the nasal septum and especially of its lower cartilaginous portion is by no means as rare an occurrence as it is generally inferred to be from the sparcity of the literature on the subject; nor is it a lesion, which is as Bosworth thinks, of little account, giving rise to few, if any, annoying symptoms. On the contrary, such cases are quite numerous, and the perforations, although unsuspected and easily overlooked at a cursory examination, are frequently the sole cause of the long train of symptoms known and recognized in a general way as nasal catarrh.

Statements in the text-books on general medicine and surgery, and even in the older special works on nasal diseases, have given rise to the impression, that perforation of the septum of the nose is almost invariably caused by necrosis, due to a general dyscrasia, and particularly to syphilis, and this particular lesion is looked upon by the majority of the general profession as pathognomonic of syphilis or struma. This may in many cases be true of perforation of the upper or bony portion of the septum, but syphilis or any other dyscrasia is but rarely the cause when the lower or cartilaginous plate alone is affected.

In this region, where perforations of various dimensions are most frequently met with, a variety of other causes than syphilis are at work—causes which are mostly local in character and which are what may be termed chronically traumatic in their action. I use this apparently paradoxical term to express a frequently repeated and long continued traumatism of so slight a malignancy that a single infliction of it would hardly be felt, and its damage rapidly repaired; but a continued and frequent

repetition of its infliction, produces by accumulation, often irreparable damage.

Let us take as an illustration a case in which there is a slight localized depression on one side of the cartilaginous septum just above the columnar cartilage, which depression may be produced by continuous pressure of a hypertrophic condition of the lower end of the lower turbinated bone or by a localized projection or ecchondrosis of the septum itself, forming an apparent depression in the surface above it, or from some other cause, such cases being quite frequently met with; and we will find in the earlier stages a slight accumulation of mucus, hardened into a more or less dry scab or crust, filling up the depression. This accumulation of mucus is left in the depression as in a sort of eddy, out of the course of the air current, and becomes dry and hard by being impregnated with dust particles and by being dessicated by the air passing over it, but not dislodging it in the act of nasal respiration.

Soon this scab becomes a source of irritation to the patient, and instinctively he tries to remove it by either forcible blowing of the nose or by scratching with the finger nail. If this scab has already become loosened at the upper edge (desquamation of ciliated epithelium always occurs in the direction of the ciliary motion, in the nose from above downward) the forcible blowing will tear it loose, and it will be blown out; but in this process epithelial cells not as yet ready to desquamate are also torn off, and the mucous membrane thus becomes partially denuded of its natural protecting covering, and an abrasion is the result.

If the scab is removed with the finger nail a like lesion ensues, only in a greater degree, and a slight bleeding follows the expulsion of the scab, the dried blood then forming a more substantial basis for the speedy reformation of the scab. It can readily be seen that a frequent repetition, at short intervals, of even such a trifling loss of tissue must in the aggregate much exceed natural repair, and thus gradually a deepening of the depression of the septum follows with a final perforation of the cartilaginous plates, which, at first, extremely small, gradually increases in extent as the scab is alternately formed and expelled.

The edges of this perforation are of course always denuded of epithelium, and even of mucous membrane, and, as the hyaline cartilage of the nasal septum is nourished only by loops of vessels dipping into its matrix from the mucous membrane, and not by a capillary anastomosing net work as in other tissues of the body, new cartilage cells cannot be deposited from the denuded edges, and the process of necrosis goes on uninterruptedly.

If the respired air is impregnated with acrid or caustic dust, as is the case, for instance, in factories where chromium salts are manufactured, the process of decay and perforation of the cartilaginous septum is accomplished in the same manner, but in an incredibly short time, and it has been observed that workmen in bichromate of potash works show perforation of the septum within a few days after entering the laboratories. This may be accounted for by the well known softening action which chromic acid and its salts exert upon bone and cartilage, well known to the microscopist who utilizes it in preparing bone and cartilage for cutting sections.

Another frequent cause of perforation of the cartilaginous septum is an excoriation or partial necrosis of the nasal mucous membrane, so frequently observed in typhoid fever and other febrile affections of a typhoid nature, as well as in nasal diphtheria, in the course of which diseases the patient "picks" the dried scabs unconsciously, but continuously, thus scratching a hole through the septal plates, unless this is prevented by frequent cleansing of the anterior nasal cavities with a soothing alkaline solution throughout the course of the systemic disease. In a few rare instances abscess of Jacobson's organ, that rudimentary cavity which is situated between the cartilaginous plates forming the lower portion of the nasal septum, as well as (particularly in children) the unsuspected presence of foreign bodies, such as shoe buttons, beans, pebbles, etc., have caused perforation of the nasal septum. In the latter cases the continuous pressure of the foreign body upon the septal mucous membrane produces localized necrosis, and it is this giving way of one of the confining walls which allows the foreign body to be expelled spontaneously, as I have had occasion to observe in one or two instances.

And finally, unskillful or mistaken surgical interference for the removal of nasal obstructions often result in septal perforations, as when the septal plate is "button-holed," in an attempt at removal of an enchondrosis, or when it is deliberately perforated with a shoemaker's punch for the cure of the nasal obstruction due to deviation of the septum, an operation which was proposed a number of years ago, and which is unfortunately still practiced by a number of surgeons in spite of its glaring irrationality and baneful after-effects.

The treatment must of course be based upon the peculiar pathological, anatomical and physical conditions in the first place, and upon the extent of the lesion in the second; that is to say, if the perforation is not as yet complete, but when the conditions described for the production of the perforation are present, or if the perforation is as yet but a small pinhole, we can with a degree of certainty expect to prevent the localized necrosis of the cartilage altogether in the one case or prevent extension in the other by rational treatment, which must, of course, consist in intelligent and appropriate removal of the various abnormal conditions by topical applications, surgical interference when necessary, and by scrupulous cleansing of the the nasal cavities with an unirritating, solvent, alkaline solution, so as to prevent the formation of the dry scabs, and thus favor the reconstruction of the lost tissue with its natural epithelial covering.

If, however, the abnormal communication between the two anterior nasal cavities is established, and the septal perforation is of considerable size, this prophylactic treatment is of no avail, because the mucous membrane cannot be coaxed to cover the denuded cartilage especially at the upper margin of the perforation, nor can the necrosis be arrested by artificial covering of plastic lymph produced by counter-irritation, because, as stated, the nutrition of the cartilage is effected only by loops of blood-vessels dipping into the matrix of the cartilage from the perichondrium, and thus reproductive granulation tissue will not form beneath the artificial coverings.

In these cases there are but two methods available to repair the damage, and the most rational of these is a plastic opera-

tion, although the second, namely the closing of the communication between the anterior nasal chambers by means of a hard rubber obturator, held in place by a set-screw or clamp connecting the two plates of the obturator somewhat after the fashion of the modern patented sleeve button, has, in some cases, been successfully employed.

Such a plastic operation necessitates the cutting out of a piece of one of the plates of the cartilaginous septum, either above or below the perforation, large enough to cover it, and securing it in place after denuding the edges of the perforation, preferably by means of the galvano-cautery knife, with either plugs of wood or ivory covered with aseptic punk, or by means of delicate silk, suturing through the whole thickness of the cartilaginous septum around the edges of the perforation.

This operation I have successfully performed in a number of cases, and the results have been most satisfactory, especially when I have employed the latter method of securing the flap, because the mucus secreted by the nasal mucous membrane has free flow then, and acting as a perfect antiseptic favors union by first intention, while, when the plugs are used, suppuration may occur, and in one instance under my observation has resulted.

The objection to the obturator has been in my experience that it does not favor healing of the denuded cartilage, but simply covers up the hole, and consequently does not prevent further necrosis of the septal cartilage, so that the lesion continues to increase in extent, necessitating a corresponding increase of the obturator plates from time to time, and does not prevent the annoying and often offensive discharge from the nose.

THE CHIEF PREDISPOSING INFLUENCE IN THE PRODUCTION OF TUBERCULOSIS.

By E. O'N. KANE, M. D.,

OF KANE.

With all due deference to the tubercle bacillus as playing an important role in the production of tuberculosis, and with the highest respect for its discoverers and sponsors, I do not and cannot consider it more than a determining factor in the production of this disease. Possibly it may be the only determining influence, and possibly, without its presence, the tubercle cannot develop in lungs otherwise fitted for its production. That even this is a fact is barely proven, and numerous contradictory and puzzling phenomena confront the theorist in his endeavor to fit his facts to his theory. Be this as it may, there is undoubtedly an especial predisposing something—a subtle influence of so grave a character, that it is to my mind far more worthy of consideration than the tiny bacillus tuberculosis; of far more importance, because without this predisposing influence, the tubercle bacillus would be as powerless as is the roadside dust to do more than create a mere local irritation.

Some question whether this predisposing influence actually exists, probably preferring to ignore facts in order to render their theory of tuberculosis and its special germ more perfect. They seem to doubt whether—given an equal exposure to germ influence—every one's constitution is not equally receptive. They seem also to undervalue the enervating effect of bad hygienic surroundings, relegating them to an inferior place. At the risk of being thought antiquated and unscientific, I must express my firm belief that "consumption," or at least the predisposition to it, is hereditary, and I wonder

whether the bacillus bears any more causative relation to it than does the aggregation of small boys to a conflagration. The larger the fire the greater the number of small boys; the greater the number of small boys the fiercer is the fire. A big fire is seldom witnessed without their accumulative presence, although it is admitted that that they are found everywhere in small numbers even where no fire exists, yet there must be an intimate connection somewhere. Is not the theory of their causative relation a sound one?

I do not presume to ridicule a theory so well provided with facts as the present one concerning tuberculosis, only to intimate that it is not entirely sound, and that it does not reach the root of the matter, there being something of far more importance that is overlooked. Few experienced practical physicians doubt the existence of this inherited something, called a predisposition, which often blights whole families, or brands out of a common stock each member who bears a resemblance to some especially debauched, dissolute ancestor. When both parents carry this inherited taint, despite a superficial appearance of sound health, the old family physician trembles for the fate of the coming generation. And is it not with reason? Does this dreadful predisposition to ultimate decay show in earlier life no characteristic signs of its presence, no marks by which we may recognize it? Yes, there are a few peculiarities, those spoken of by older writers and classified vaguely under the head of a strumous or scrofulous diathesis. The more pronounced symptoms exhibited by these scrofulous subjects we are all familiar with, though the less obvious, though always present, are more readily overlooked. The feeble resisting power common to all is an unfailing attribute. If reared under circumstances favorable to health, the ranker symptoms of their disorder are obscured. Their growth may be rapid, the frame well fleshed, and even the complexion be rosy, yet if in early life they are attacked by cholera infantum, diphtheria or the exanthemata, their tissues melt like snow and they die readily, when their apparently less robust, but untainted companions survive the same diseases without difficulty. If they attain an older age they are the subjects for a softened

spinal column, or the various inflammatory bone and other diseases, brought on by apparently trivial causes; and for the fatal destruction of lung tissue called pulmonary tuberculosis. Such subjects are not only prone to the inception of the minutest forms of germ life, the various parasitic skin diseases, as well as the itch mite and larger vermin, find in them a ready prey, living upon and penetrating their tissues, exhibiting such multiplying activity as renders their banishment most difficult.

Many causes have been assigned as productive of scrofula. Too many, for where the etiology of struma is attributed to so many and so different factors, one naturally questions the power of any, especially when we consider how distinctive a chain of morbid phenomena struma exhibits. Further, there are none of the supposedly conducive elements which, separately or collectively, have not been known to exist without a single symptom of tuberculosis (scrofula) resulting. To darkness, to impure air, to filth, to starvation and improper diet, exposure to cold and other unhygienic conditions, its origin is generally ascribed. But do they more than favor its development? The Cornish miners who scarcely ever see the light of day, though dwarfed in stature, are a hardy race. So too, were the Esquimaux, so far as scrofula is concerned, though breathing for months the foul air of their ice-huts, never washing, habitually improperly fed or half starved, and subjected to the vicissitudes of an Arctic climate. Among the civilized, the rich, the enlightened of the upper classes on the contrary, who have every hygienic surrounding in their favor—together with every opportunity for luxurious indulgence—struma is still of constant occurrence despite every effort to eradicate it. We have good reason then to seek some other cause—some single cause—some potent one, invariable one, that may be found active in all ranks of life and among all races, one from which neither rich nor poor, the enlightened nor the ignorant are exempt. What is this cause, so common, so world-wide, so ancient and so modern? Do you not know, cannot you imagine?

It is that hideous and loathsome disease which is common-

est to-day—was the commonest centuries ago. It is that unquarantined pestilence which is variously estimated as afflicting from one-twentieth to one-tenth of the entire human race. It is the only disease which is undeniably entailed, to quote the Mosaic text, upon the children's children to the third and fourth generation.

Does not such a disease, so persistent, so characteristically a disease of decay, of rottenness, a disease resulting in the destruction or vitiative alteration of every tissue, exert a special influence upon the human race which is as characteristic as it is widespread? Is it not reasonable to assume that this ravaging pestilence which has warred against the purity of humanity for centuries on centuries, must have left its mark in some special condition of debility and exhaustion peculiar to it? Yes, I reply it is, and it is thus I account for the peculiar tendency of the descendants of drunkards and libertines to fall a prey to tuberculosis. This is why, after the visit of the debauched sailors among the once vigorous Sandwich Islanders whom they syphilized, the natives died in flocks like sheep from consumption. For the same reason now in Alaska and in the west among the Indians, syphilis, which the traders brought in and which spread like a fever, has been followed by its product—consumption.

Air, sunlight and other benign influences do much to renovate our enfeebled tissues and rebuild what the vices of our ancestors have pulled down. Could *syphilis* no longer prey upon the human race, the tendency of nature towards recuperation would soon regain for us the perfect health of our first parents, and the very name of the *tubercle bacillus* would be forgotten.

How long will our doctors submit to be muzzled? Was it not some poor brother of our craft, who ages ago left on record his prophetic warning in the legend of the Minotaur? How long will it be before our nation ceases to pay its annual tribute of maiden virtue and innocence to the monster?

THE HYGIENE OF PREGNANCY.

By MARY McCAY WENCK, M. D.,
OF SUNBURY.

Perhaps, of all the various avenues of thought through which a physician's mind must travel, there is no one subject of such vast importance as is the theme upon which I am about to speak. Perhaps, also, there is no one topic to which, as a rule, so little attention is given by the busy general practitioner. Let us reflect a moment upon its great significance, and then judge if in any other field of work is there placed in mortal care a power so nearly allied to Omnipotency itself as in the teaching of how to best develop a *human* body as well as the *immortal mind* and soul ordained to dwell in that same body, ere the "breath of life" as a distinct and separate being is breathed into its nostrils.

How many of us remember, when a frail little woman presents herself to us for advice as to how she may free herself from those distressing pains in the back and hips, or from the wretched nausea which so often renders life a burden during the early months of pregnancy, how many of us, I repeat, remember that it is our positive *duty* to not only try to subdue aches and nausea, but to explain to her the necessity of such a course, and then to insist upon the expectant mother placing herself under such strict hygienic conditions mentally, morally and physically as will best prepare her for the sacred responsibilities of maternity?

Do we try to instil into that woman's mind the idea that God has placed a seal of accountability upon her, and given into her charge His Own power of development, to be used wisely or unwisely as she may will? Do we teach her if she be fretful and irritable during those two hundred and eighty days, that

the little life soon to be visible in her home will, in all probability, be a cross, worrisome baby, needing a tired mother's attention day and night?

On the other hand, do we tell her that if a constant effort is made to be cheerful and good-natured, and not to allow worries of any kind to cause great anxiety during those months of development, the coming little one will be of a happy and contented disposition, filling the house with sunlight and causing many a whispered prayer of thankfulness for its cheering presence?

Now please do not think I mean by this statement that a woman's disposition while pregnant will be exemplified by the child's life throughout, for, of course, hereditary predispositions from either parent, in mind or body, may eventually show themselves as the infant changes from child to youth, and youth to maturity.

I am now speaking *only* of babyhood, and once again I affirm, from a study of over a thousand cases in my own practice, that just as is the mother's disposition during her period of pregnancy, so will be the disposition of the child during its helpless and dependent months.

However, it is not my intention in a ten minutes' talk to enlarge upon the mental and moral hygiene of pregnancy, for upon these subjects might volumes be written, and without exhausting them. My purpose is to simply formulate a few general principles of physical hygiene to be observed by a pregnant woman during the formation period.

These rules I find, from a careful examination of almost 1300 cases, are, at best, both crude and incomplete, and, in some of the most promising instances, have proven futile and of no good results, but when every obstetrician in the land fully realizes the importance of securing for each and every pregnant woman under his or her care a certain course of preparation, perhaps experiment and experience may procure for us a formulary which will never fail to rid the lying-in period of its torture, and make the pregnant state considered God's greatest blessing to womankind.

In the preparation of the little lecture given to women who

apply to me for advice, or who come to engage my services, I tried to keep in mind the one unvarying characteristic of muscle-tissue, viz.: *its irritability.* The muscles are the main actors in labor, whether uterine or abdominal, and therefore to train them and keep them in a perfectly healthy condition so as to make them able to do their work easily and properly, places their care paramount to all else.

The irritability of a muscle depends—

1st. Upon the adequacy of its blood supply: the better the supply of new material and the more quickly the effete material is removed, the more work a muscle can do without becoming exhausted.

2d. Upon activity, accompanied by an increased blood supply and perfect nutrition.

From these known peculiarities of muscle tissue I have formulated four headings to a talk given to each of my pregnant patients:

First—*Clothing;*

Second—*Food;*

Third—*Exercise,* and

Fourth—*Muscle toilet.*

First, as to *clothing.* From the moment a pregnant woman is conscious of her condition, the loosest fitting and most comfortable garments should be worn, and all tight clothing and corsets abandoned. To a woman accustomed to a corset, its absence will be quite a trial, but a stout muslin jacket will give the needed waist-support without the objectionable stays and whalebones. All heavy skirts should be supported by shoulder-straps, so as to allow entire freedom of motion to the abdominal muscles. *No* uncomfortable clothing should be worn. Even the feet and hair should be dressed with the one idea of comfort, no matter if fashion does call for high-heeled shoes or plenty of hair-pins, heavy combs or a chignon.

Second, *food.* From the chemical constituents of the different human tissues a comparatively correct dietary for the formative period may be compiled. A carefully assorted mixed diet, supplying to all the tissues the most necessary food is, of course, the best, but an avoidance of great quantities of animal food

and, in fact, of all the foods which contain phosphates and carbonates will be found beneficial for one especial reason.

The bones owe to these earthy salts their exceeding hardness, and if these substances be partaken of as little as possible, does it not stand to reason that the hard, unyielding condition of the presenting head during labor would be absent, and labor itself be robbed of one of its most trying features? At the Pan-American Congress held some years ago in Washington, Dr. A. J. Saunier, of Chicago, read a paper on Aids to Easy Parturition, in which he says:

> Pregnancy having taken place, attention should be given to diet. The child's food must be of what the mother partook. Therefore, the condition of the child's bones could be controlled by feeding as easily as a person could be fattened or reduced in adipose tissue by regulating the diet. The object was to avoid too great development of the bony system, which would interfere with the moulding of the head and easy passage of the child through the parturient canal. Those foods containing earthy salts in large proportion should be avoided—oatmeal, Graham bread, other cereals, and all things containing large quantities of earthy phosphates; use white bread, potatoes, most kinds of vegetables, and especially fruits. The latter would keep the bowels open and cause solution of the earthy salts in other articles, so they could be carried off by the kidneys.

The organic acids in fruit of all kinds seem especially grateful to a pregnant woman's stomach, and many a case of "morning sickness" has been relieved entirely by a breakfast of fruit. In any state, whether raw, dried, canned or cooked, fruit seems to give fine results, though I cannot fully explain physiologically, *why*. I do not know whether or not the fruit had anything to do with one of the easiest labors at which I ever officiated, but the lady herself claimed the ease of the labor to have been produced entirely by her having eaten twenty-seven bananas during the day on which she was confined.

Third, *exercise*. By this is meant exercise—1st, for the sake of muscular movement; 2d, for supplying the very necessary blood food (the purest obtainable oxygen) to the lungs; 3d, as a means for distracting the mind from the daily routine of home duties and domestic worries, and 4th, as the fœtal blood is, of course, aerated by the oxygen taken into the mother's

respiratory organs, exercise in the open air procures richer blood for the fœtal circulation.

Thus we know by the natural process of breathing the purer outside atmosphere for a certain length of time each day, the pulmonary tract may be cleaned out and replenished with a fair supply of fuel for another twenty-four hours of indoor life. It is said that eighteen full respirations will cause the lung reservoir to be fully exhausted and replenished, so that exercise for an hour or two out of doors with an occasional full inspiration ought to furnish oxygen enough to purify the entire breathing space for one day at least. This daily oxygenating process also has a beneficial effect upon the muscular organism of the parent, for aside from the benefit derived by the movements of the lower limbs, it furnishes purer blood nourishment to the muscle tissues, and aids them in keeping healthy and contractile.

Fourth, *muscle toilet.* From the first two months of pregnancy the muscles of the abdomen, thighs and lumbar region should be made special objects of care by daily bathings and massage, in order to make them pliable, strong and easily contracted. Until the sixth or seventh month it is sufficient to order simple nightly sponging all over the abdomen, the lower portions of the back, and the upper part of thighs, to be followed by enough friction with a coarse towel to stimulate the nerve terminals of the skin and to open up the pores. This, in turn, should be followed by a fifteen- or twenty-minute massage of the same sets of muscles, using sweet-oil or cocoa-oil, or, in poor families, simply clean lard as an inunction.

During the last six or eight weeks, instead of the nightly spongings, sitz baths should be ordered—these followed by the same friction and oil-massage treatment. This plan of procedure, if carefully carried out, cannot fail to fortify and improve every one of the muscles brought into action during parturition, rendering them pliable and able to work harmoniously together with immense outside force while aiding the uterine contractions within. In closing up my very imperfect and disjointed talk upon this subject, I can not resist another short reference to the condition of mind—or mental hygiene—

positively necessary to produce the most satisfactory results in combination with these physical hygienic rules.

According to Webster, Hygiene is "that department of medical science which treats of the preservation of health," hence the mental hygiene of pregnancy must mean all those conditions which tend to the preservation of a clean, healthy state of the mother's mind during those two hundred and eighty days of fœtal development. Of course, we, as physicians, cannot make over a household wherein is a pregnant female, but, in many cases, a word of advice from our lips will be carefully studied and faithfully followed, and thus a cloudy home atmosphere be cleared up amazingly.

The sunshine of a pleasant, sympathetic face and voice will flood a friend's mind with warm, grateful light, and prove to be a marvelous influence towards calming all distracting thoughts and worries.

Let us impress upon all inmates of such a household the importance of assisting the prospective mother in all her efforts to attain and retain an uninterrupted, peaceful temperament. If we see to this, I am sure the result will astonish us. Thus, and thus only, will the newly created mind of the infant come into the world unhampered and unbiased by bad impressions produced—latent, they may be, but nevertheless produced—*in utero.*

Perhaps I am an enthusiast, or, in common parlance, a full-fledged crank, upon the topic of my paper, but I am fully convinced that were even these crude and imperfect suggestions carried out to the letter in every case put under our care, thus making us teach and watch wives and daughters during these important times of their lives, and again insist upon the granddaughters following the same routine, by the time the third, fourth or fifth generation will have arrived, pregnancy and child-birth will be freed from agonizing pain, and the pregnant state be considered, instead of a curse, a distinct mark of Divine favor.

Perhaps my religious views may be deemed heretical and at variance with the apple story of Eve in the Garden of Eden, but we are taught to judge by the love dwelling in our own

hearts toward our mortal daughters, of the greater and fuller love of the immortal Divine Being for us, and therefore I cannot believe that the great loving, pitying heart of our Heavenly Father would condemn His children forever to suffer the awful agony of travail without some merciful provision having been made by which all pain may be eliminated from the paturient chamber, and also by which may be left within the shapely, healthy body of the tiny new-comer a shapely, healthy mind —fit abode for the pure white soul newly stamped with God's own perfect image.

THE PATHOLOGY OF THE BLOOD IN THE INSANE.

By WM. H. HARRISON, A. M., M. D., PH. D.,

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Insanity is a disease of the physical system. Owing to our ignorance of the minute structure of the encephalon and its physiology and pathology, the principles of psychology and psychiatry are arranged still on functional lines. The tendency of the times is to develop the principle that every function has a physical centre, and that every derangement of function is due to morbid change of such physical centre. Acute insanity is always associated with derangement of one or more parts of the physical system. Examination of the dejecta and secretions often makes this plain enough. The exterior of the body shows symptoms of wide-spread disease which the experienced alienist makes note of. Disturbance of the mind is only too commonly accompanied by disturbance of the digestive functions. Careful analysis of the urine of over five hundred cases of insanity reveals pathological change in this fluid in a large proportion of the cases. In all forms of insanity there is physical waste as well as deterioration in the acute stage, and in the chronic condition as well, though such change is modified to some degree in the latter by an improvement in the physical condition at the close of the acute period. The great majority of our hospital dements appear well nourished, but this is in consequence of the hygienic life of the institution. They are a pathological race in our midst, and exist only by the charity and consideration of the well.

Pathological changes in the blood are physical symptoms of the mental disorder, primarily or secondarily. There is a tendency to very slow coagulation after withdrawal of the fluid in the majority of cases, although in the acute insane the tendency to clot early is quite pronounced in some cases. We have noticed this tendency where there is concentration of the blood from liquid abstinence. Among insane women and those of the luxurious class at Kirkbride's, the diminution in alkalinity of the blood appears to be palpably more marked than among men and the hard-working class.

The specific gravity of the blood as a whole is commensurate with its physical condition. In exaltation when the number of cellular elements is above normal exceptionally the specific gravity is likewise above normal. By means of the hemaglobinometer, hemacytometer, hemometer, hematokrit, we learn very important symptoms which the customary means at the hands of the physicians do not reveal to us. We learn by more scientific means the critical state of the individual. Our experience in insane hospitals teaches us that this is a very important matter indeed. And so we have come to take blood data of each individual on his entering the hospital and in special cases at certain intervals. We are thus guided in our dietary and medical and hygienic treatment of the insane. The blood of the insane is impaired or in a morbid state. The pathological conditions of the blood are some of the physical symptoms of the disease. Insanity considered as limited to morbid mental processes stands for only a part of a very composite morbid condition. We have then to consider pathological physical symptoms as manifested in the degree of hemoglobin, the number of red cells, white cells, plaques, the variation in form, shape, tint, chemical and physical constitution and other characters of the cells, as far as this can be done, and the variation of the cells as to number to each other.

In mania the rule is that the red cells are diminished in number, the diminution corresponding to the deterioration of physical health generally. But in many maniacs near the inception of the exaltion, especially where the period of depres-

sion has been short and the disease has not had time to cause palpable physical deterioration, such exaltation is sometimes accompanied by an increase of the red cells above the normal. Mania consists in exaltation of nerve centres to greater or lesser degree. Severe exaltation involves all of the properties of mind, intellect, sensibilities, will, centres of muscular action, sensation, the centres often of the organic and vegetative functions. Exaltation of mind is the conspicuous part, as the encephalon is by far the major portion of the nervous system. The secretions and emunctories act more powerfully and rapidly, so that there is rapid drain of water from the system, which loss of fluid is seen in the blood in a very short time, and consequently there is increase of hemoglobin and of red cells and of white cells and of plaques in proportion. We commonly notice that this proportion remains constant, but we exceptionally meet with cases where this proportion is distinctly modified, the white cells and plaques, more rarely either alone, being in greater or less proportion to the red cells than normal. At the same time the weight declines. Hence we learn the importance of supplying the maniac with more than ordinary nourishment, both solid and fluid, with tonic remedies and plenty of water at frequent intervals. In an exhausted maniac, who came within our notice a few months ago, the number of red cells per cu. mm. was about 8,000,000, a liberal supply of water was given at frequent intervals, and in the course of about ten hours there was a reduction of red cells to 4,000,000.

In some cases we noticed that even where ample fluids and most nourishing and liberal diet were supplied at short intervals, the number of red cells was greatly increased even to some degree above the normal line and the whites and plaques in proportion. Cannot we infer from such experience that the exaltation extends to the red cell making power and that of the plaques? And is there not a corresponding increase of reproduction in the ameboids? Better knowledge of red cell production and its location and the nerve cell government of the same, may make this matter clearer. As to the hemoglobin we have only very rarely found it increased above

the normal line in mania, but as a rule it is of greater degree than in depression. Among the sane, vigorous young men and boys employed about the hospital, here and at Kirkbride's, we have found it to be 105, 110, 120.

As to the plaques likewise, the proportion to the red cells appeared to be the same as in health, 1 to about 20. As the red cells increased in number so did the whites and the plaques. This appeared to be the rule. But we found exceptions to this rule likewise, and we found no special physical disease to account for the disproportion. It is stated by observers that in mania coagulability of the blood is hastened to some degree in the earlier part of the attack, which we find to be the case, and the inference is that coagulability depends on the presence of the plaques. In a case of mania at the State Hospital, however, while we found that the plaques bear the proportion to the red cells of 1 to 8, the coagulability was notably diminished.

These observations apply not only to the exaltation of mania, but also to the exaltation of double form insanity, the exaltations when they occurred in the systematized progressive insanities to exaltations in the disharmonies, neurasthenias, phrenasthenias, monstrosities, to the exaltation of epilepsy markedly, the exaltation of paresis, and exceptionally to the exaltations when they occurred in the dementias.

In melancholia we find notably a diminution in the red cells. Such diminution is much more marked than in mania as the rule. The profounder the melancholia the greater the diminution, as in the hyperacute. In those cases where forced feeding must be resorted to, such diminution is very marked as a rule, and yet some of our patients at Kirkbride's had to be fed regularly for months in such manner and gained in weight withal, and the number of red cells closely approached the normal. The white cells and plaques, as a rule, were proportionally diminished with the red, but there were exceptional cases where, as in some cases in exaltation, the white cells and the plaques or either were much increased, and others where the reverse was the case and where no physical symptoms could be found to account for the abnormal proportion.

These blood changes were commensurate with many physi-

cal changes, giving rise to many morbid symptoms as varied as the organs and tissues themselves.

As to the hemoglobin there is a marked diminution, much below that of mania in the average, with variations more or less marked in proportion to the physical deterioration.

These symptoms of mental and physical depression commonly seen in the typical case of melancholia are seen as well in the periods of depression of all forms of insanity.

In dementia the diminution of the red cells and of the white cells and plaques in proportion is marked as a rule in the majority of cases. In some the number of red cells reaches a very low figure. In the case of X at Kirkbride's, it was as low as 918,000, and remained low with some variations during the whole time of the examinations, about one year. In many cases of secondary dementia which we have examined, however, we have found that the diminution of red cells was only slight, cases of men and women who after the storm of acute mania or melancholia had passed over and the body took on flesh, increased in weight and became well nourished, and the white cells and plaques in normal proportion, and the hemoglobin though below normal, of a pretty fair figure. All insane hospitals have such cases, not a few who are fairly strong and well nourished, though demented and delusional, are carefully supervised by the medical staff and who live the regular hygienic hospital life in peace and contentment, living much in the open air doing manual work upon the premises. But the great mass of the demented, who lounge about the wards most of the time in a most inactive condition and who have to be urged to take the routine exercise in the open air as prescribed, show much blood deterioration as they do general physical deterioration, as manifested by many symptoms. Subjected to the ordinary trials of sane life, exposed to the storms of a harsh world, they would vanish from the earth in a very short time.

In dementia we find a disproportion of red to white cells and to the plaques more commonly than in acute exaltation or depression, although it is even uncommon among the dements. In the degeneracies of evolution, deterioration is expressed in

many physical symptoms, and study of the blood reveals diminution of red and white cells and plaques and hemoglobin quite commonly. Periods of excitement and depression show characteristic modifications, and yet we meet in hospitals and in the outside world eccentrics, those subject to aboulias the moral insane, paranoiacs, imbeciles and idiots, in which the physical symptoms do not vary proportionally from the normal, the discharges show no deterioration, the red and white cells show no palpable deterioration, and the cell elements and hemoglobin are normal as far as methods of analysis reach. In epileptics we sometimes find excess of the cellular elements beyond the normal line during and immediately following convulsions, at all events in many cases a decided increase, and the hemoglobin likewise increased with many corresponding physical symptoms, as the appearence of albumen in the urine, all due to great functional disturbance, and after some hours a corresponding diminution in these elements, notably below the normal line, a true reaction after the violence of the convulsion, and later on the more equable deterioration of many physical symptoms, including those of the blood as in dementia.

In paretics likewise, during and immediately following the convulsion, there is commonly an increase in the cell elements, sometimes beyond the normal line, to be followed after some hours by the reactionary diminution of the cells and hemoglobin, and then later on the steady decline in cells as to number and in the hemoglobin, which decline is very rapid, keeping pace with the general physical deterioration in many other respects. In cases of paresis, epilepsy, mania, paranoia, we have noticed often a temporary increase, sometimes beyond normal, after a period of great excitement or burst of ill temper. We have seen the same after great excitement due to horrible hallucinations in the insane, also remarkable increase, 8,000,000 or more, in periods of delirium in alcoholism, also in the morphia and cocaine habitué. At Kirkbride's hospital, a paretic well nourished but having ataxia of limbs and speech and delusions of grandeur, after finishing a creditable " home run " in a game of base-ball, developed the remarkable increase of 8,741,207.

In many cases of dementia also, even in acute cases of mania, particularly the hyperacute form, and in stuporous melancholia, some forms of epilepsy and in paresis, commonly accompanied by much physical exhaustion, microscopical examination of the blood sometimes reveals a manifest paleness of tint in the red cells, likewise a variation of tint, some cells being devoid of color. With this variation of color also, there is commonly irregularity in form.

We have frequently seen the microcytes and macrocytes, about which much has been written, in the blood of typhoid cases, anemia, marasmus, stuporous melancholia, dementia, paresis, epilepsy. We have often seen the red cells undergo a sort of reproduction like that produced by the use of certain chemical solutions, a section and multisection. In the latter case such division and several other changes are produced by the artificial environment of the cells, so in the former we doubt not that the division and other changes are pathologically brought about by a deleterious or poisonous product developed in the blood plasma through disease or derangement or in the cells themselves or in both. As we have found the condition immediately on drawing the blood, we presume that the change goes on in the living body.

In some cases poikilocytosis was very marked. The red cells were much misshapen, indeed in some extreme cases very few of the cells were found of normal shape at some periods when the physical symptoms were much reduced. Many of the cells were marked by little rounded knob-like protrusions; many were of the shape of little bottles, crescents, kidneys, and other bizarre forms.

In a number of cases, some in Kirkbride's hospital and some in the State hospital, we found a remarkable degree of leucocytosis. In a case of the morphia and cocaine habit with delusions, hallucinations and maniacal symptoms, a man of fine education and intellectual power, famous for his lectures and books, who had been taking an indefinite amount of these drugs in twenty-four hours, we found the proportion to red cells of 1 to 20. The drugs were gradually reduced and the patient recovered his reason in about nine months. By use

of a dirty syringe there was produced on his abdomen and thighs many abscesses, which persisted a long time. They were opened, drained and treated antiseptically. We treated as many as forty of them. The great excess of leucocytes gradually disappeared with the healing of the abscesses.

Quite commonly we noticed an increase in white cells after meals in various forms of insanity and after forced feeding by nasal or stomach tubes. After fasting we noticed a palpable reducing of these cells, particularly in cases of suicidal melancholia, who would avoid food for long intervals. The proportion of white to red cells in some feeble cases reached that of 1 to 60 and 70. We commonly notice a line of physiological increase of white cells after meals in the sane and insane, and a corresponding diminution after fasting. In mania, exaltation of paresis, epilepsy and other forms, after ravenous eating of large quantities of food, we noticed very great increase of white cells above the normal in some cases, which would fall to normal after some hours.

RECORDS OF WORK IN THE WOMAN'S HOSPITAL OF PHILADELPHIA.

By ANNA M. FULLERTON, M. D.,

OF PHILADELPHIA.

The recent caustic utterances of the distinguished surgeon, Dr. Nicholas Senn, of Chicago, regarding the onslaught of modern surgery upon the organs of generation, would intimidate a much bolder gynecologist than myself from the expressions of opinions concerning gynecological surgery which may appear to be at variance with his. Ten years residence in the Woman's Hospital of Philadelphia, as its Physician-in-Charge, have, however, convinced me that the tendency of gynecology to become so largely a surgical rather than a medical specialty is not simply due to the *furor operativus* to which Dr. Senn refers, but the results of a governing conviction on the part of the most eminent and conscientious gynecologists that organic conditions of disease, as they affect the pelvic viscera, not only tend to produce chronic invalidism, but induce conditions which render the functional activity of the generative organs a menace often to the life of the patient. Medical gynecology *has* its beneficent uses, and is by no means to be discarded. Its uses, however, are confined to *prevention* rather than to *cure*. By emphasizing the principles of hygiene in their bearing upon the sexual functions, by condemning the artificial obligations of society life, the baneful influences of improper food, fashion and folly, much may be done to ward off the serious conditions demanding the knife for their cure.

In *acute* pelvic inflammation the prompt and intelligent application of remedial measures—the use of antiseptics, salines, rest in bed, etc., may bring about a satisfactory cure, leaving no permanent lesions to become the source of future trouble.

Unfortunately, however, the average general practitioner is not conversant with the symptoms, character and progress of pelvic disease, and hence their is much mismanagement and neglect of these acute conditions, so that when seen by the specialist they are, as a rule, beyond the remedial influences of palliative treatment.

In making a comparative study of the lists of cases which have presented themselves for care at the Woman's Hospital during the ten years of my incumbency, I have been much interested to note the relative frequency with which the various pelvic disorders occurred. Among 39,698 gynecological cases treated during this time, the proportion which were of inflammatory origin was over 41 per cent of the whole. Displacements constituted 27 per cent; neoplasms, including ovarian tumors, fibroid and malignant growths, 7 per cent; functional disorders, which were mainly due to constitutional conditions and arrested development of the pelvic organs (markedly the small antiflexed uteri so frequently met with), were recorded as 14 per cent; lacerations of the genital track, due to childbirth, 10 per cent. Marked abnormality in the development of the pelvic organs existed in about one in every five hundred cases.

Inflammatory conditions, as is shown above, existed in about half the cases treated, and were, as a rule, septic in origin, being mainly puerpural, gonorrheal or specific. Displacements were very numerous and largely the result of faulty hygiene. For both these conditions palliative measures, although often temporarily beneficial, are, as a rule, unsatisfactory, particularly when employed for wage-earning women, who cannot keep themselves comparatively comfortable, by rest and the constant application of pallative remedies.

The recent manœuvre of gynecologists, in their efforts to preserve the integrity of the generative organs by resort to vaginal incision and drainage in certain classes of cases, has not been productive of brilliant results in my own hands. In a series of five cases thus operated upon recently, because of the profoundly septic or enfeebled condition of the patients when admitted, I had one pelvic abscess to fill up again after a few

months, requiring a second operation; and a similar result occurred in a case of hematosalpinx only a few weeks after operation.

That the operation is one of necessity at times may be granted, but the fact that we must work without the aid of sight and thus too frequently leave a nidus for subsequent trouble, would preclude it being one of choice, in my opinion. The abdominal route has, therefore, been that most frequently employed by myself, when the extirpation of the generative organs was indicated.

The number of operations called for is certainly appalling. Nothing, however, is gained by doing anything else in irremediable disease. Given a skillful and intelligent operator, the chances of a patient (under such circumstances) for restoration to health and happiness, are far greater when radical measures are employed than where one satifies oneself with mere temporizing.

As time is limited, the report of one case occurring in my experience will serve, I believe, to point its own moral as to the value of radical over palliative measures in incurable pelvic disease.

The patient, M. T., aged 37, an American, married, came to the Woman's Hospital on February 24, 1890, having a large indurated uterus. Her personal history was as follows: She was never very strong; menstruation began at 11 years of age, was painful and irregular, accompanied by nausea and vomiting. The flow was profuse. She was married at 16 and had never been pregnant. She entered the hospital because of severe and constant headache and backache—pelvic pressure and metorrhagia.

The diagnosis of fibroid degeneration of the uterus with retroflexion was made and treatment with electricity advised. From February 24, 1890, until April 26th of the same year, the patient was treated by the application of galvanism per vaginam. On April 26th the intra-uterine electrode was substituted for the vaginal, and treatment continued until May 12th, about three months; when the patient left the hospital symptomatically improved. It is recorded that during the course of her treatment she was examined by the staff, found to be much improved and advised to continue treatment.

Three months after her discharge, the patient returned with exaggerated pelvic tenderness and recurring hemorrhage. Large fluctuating

masses could be appreciated on each side of the tender, indurated uterus. I advised and performed abdominal section, removing the uterine appendages on both sides for double hydro-salpinx with occlusion of the tubes and entire destruction of the ovarian stroma by cystic disease. Adhesions were universal and dense. The uterus was indurated but contained no nodular outgrowths. It was hoped by the operation of castration to prevent any further increase in size. The patient made a good recovery and returned to her home on September 24th.

Three and a half years later, on February 1, 1894, she returned with the statement that she had continued in good health for about six months after the operation upon the appendages, having experienced great relief from all her previous symptoms. Hemorrhage and pain then again recurred and continued at irregular and decreasing intervals until her recent admission.

Upon examination the uterus was found to be considerably larger than when first observed and held by adhesions in the hollow of the sacrum. Hysterectomy was advised, and on February 21, 1894, I made an abdominal incision and broke up the pelvic adhesions. As the patient took ether very poorly, being a large, plethoric woman with chronic nasal catarrh, I felt the operation must be terminated at once, and contented myself with doing a hysterorrhaphy, hoping that the pressure symptoms from which the patient suffered, might be thus relieved. The patient returned to her home on April 7th in good condition.

About one year later, on April 3, 1895, she returned to me suffering with her old symptoms, pain and irregular hemorrhage. She was anxious to have a third abdominal operation undertaken for the entire removal of the uterus. After a little preparatory treatment in order to avoid the difficulties formerly experienced in etherization, I did the operation of hysterectomy by the abdominal route, amputating the uterus at its vaginal junction. The organ was three times its former size and now unmistakably a fibroid uterus.

Within a few weeks I have heard directly from the patient who has had an entire recovery from her former condition of ill-health, and has been enabled to resume all her former household duties. Had I removed the unhealthy uterus at the time of the first abdominal section, several years of comfort would have been added to my patient's life.

MILK FILTRATION.

By W. C. HOLLOPETER, A. M., M. D.,

OF PHILADELPHIA.

The brevity of my title requires one word of explanation. Milk Filtration for the nourishment of young children and babies is the full wording of my text.

After a physician has personally superintended the general management of one or more artificially reared children, he will soon realize how uncertain his resources are to adequately satisfy the wants of young children without soon demoralizing their digestive organs.

Most probably the nurse or mother, overpowered by the importuning of neighbors and friends, will resort to some one of the many condensed milks because it is handy, cheap or there is little work in its preparation; or some one may recommend one of the malted foods so numerous and highly advertised in the public press. The child will be continued on this until some sudden or severe intestinal trouble brings in the family physician, who calls a halt to the indiscriminate and careless feeding.

The professon, I feel, do not require any additional information on the subject of milk sterilization or milk Pasteurizing, both of which have been found unsatisfactory after a number of years of faithful trial. Theoretically both methods of milk preparation are correct, but in the practical application, both are found defective. Three years ago I commenced to prescribe milk filtered through sterilized cotton for my young patients.

I was led to do this by observing in the preservation of the cultures and the reagents in the bacteriological laboratory that the culture tubes were corked with cotton. I was informed

that the contents of these tubes would remain unaltered for many months if the cotton was carefully placed in the tubes. If now the cotton so successfully acted as a barrier against the invasion of bacterial life, I thought most probably it would retain a portion of organic matter as well as the bacterial life clinging to it, so certain to be found in all of our city milk.

If we could obtain a perfectly pure milk and adjust it to the wants of a growing child, we certainly would possess a perfect food. Pasteurized and sterilized milk is also rendered aseptic by its preparation, yet the very process has destroyed its digestibility to a certain degree, and it has fallen into disuse in the estimation of the majority of practitioners. Filtered cow's milk, provided it is fresh and whole, fulfils all the possible demands of the most exacting science as the ideal food for a young child. If this milk is more properly adjusted for the various ages, by the addition of water and cream in due proportion, so as to approximate a mother's milk, we will have all that is necessary for the proper feeding of a young child.

As an example, a prescription I am daily accustomed to order, may be thus written :

℞	Whole milk	ʒij	
	Sound cream	ʒiv	
	Lime water	ʒiss	
	Milk-sugar	ʒij	or cane-sugar ʒi
	Boiled water	q. s. fʒviss	

Filter through sterilized cotton, heat to a temperature of 98° or a 100°.

This is adjusted to the wants of an ordinarily healthy child of six months of life, and should be given every three hours from 7 A. M. up to 10 P. M. Many modifications of this formula will suggest themselves to suit individual cases. Frequently the milk must be lessened if digestion be feeble, and increased if the digestion is extraordinarily good. The cream may be increased if constipation exists.

In city milk I would suggest the use of cane-sugar in the bottle, as it arrests fermentation. Milk-sugar so quickly breaks up into lactic acid and water that it is difficult to keep milk

long without this transformation. When it does occur, the milk gets sour and unfit for food.

Frequently lactic acid shows that fermentation has commenced before it has been drawn from the cow's udder. I have demonstrated this fact several times in cows that have been driven long distances or been chased by dogs, or frightened by fire. Cow's milk, so uncertain in its reaction, is not improved by the addition of milk-sugar, yet, theoretically, sugar must be added. I think in the light of chemistry and the results of practical experiment, cane-sugar is the better addition for city milk.

So enthusiastic have I become in the use of filtered milk as an infant food, practically demonstrating its efficiency daily for over three years, that I recently snggested to Dr. W. Newbold Watson, bacteriologist to the Medico-Chirurgical College, that he make a number of studies of milk filtered and unfiltered for me. He says:

"The bacteriological experiments of milk received from one of the city dairies, the milk said to have been shipped three or four hours previous to my obtaining it, were as follows:

"*First*, With unfiltered milk.

"*Second*, With milk filtered once through absorbent cotton.

"*Third*, With milk filtered twice, through the same cotton and funnel.

"*Fourth*, With milk filtered twice, through different cotton and funnel each time.

"Of the above were made of each twenty (20) original cultures with dilutions. A complete record of the cultured plates was kept, and a general average of the first or unfiltered milk used as a base upon which the comparisons were considered (that is 100).

"*Experiment No. 2* gave an average reduction in colonies of 78.57 per cent.

"*Experiment No. 3* gave an average reduction in colonies of 83.11 per cent.

"The cotton used was hospital grade, absorbent, sterilized; the amounts used being twenty grains (20 gr.) to one ounce (1 ℥) of milk—glass funnels two ounce size. All being sterilized by the Pasteur method.

"The above does not show that the germs are entirely filtered out (or removed), but does show a remarkable diminution in number."

Dr. Seibert has had a parallel experience. I never realized that the milk was rendered unfit for usage by being sterilized

but that when the casein was too firmly coagulated, the solvent power of the young digestive organs could not promptly act upon the curd. By filtration we obtain a natural aseptic food.

Seibert (*Arch. of Pæd*, July, 1894) has found that simple filtration of milk through a half inch layer of compressed absorbent cotton, is an efficient means of removing a large proportion of the contained bacteria. At the same time the amount of cream is not altered, the amount of fat remains the same and the specific gravity of the milk is not changed unless so much "filth remains in the cotton as to explain the difference, an occurrence found but twice in thirty tests."

Culture experiments made with raw and sterilized milk before and after filtration, showed that in the former case an actual count of germ colonies gave in ten instances 3800 to 200,000 germs to the cubic centimeter unfiltered, and from one-half to one-fourth of that quantity after filtering. The smaller numbers were seen in April, the greater in March.

In sterilized milk (40 minutes) after four days culture, unfiltered specimens showed 56,000 colonies for the average while the filtered ones held but from 300 to 800 germs to the C. C. Dr. S's experiments have been controlled and confirmed by Dr. Kiliani. These results offer a fertile field for further inquiry.

(1) From an active experience of over three years in the administration of modified milk, *filtered* and adjusted to the age and physical condition of the child, I must affirm that we have placed the vexatious problem of infant feeding on a safe foundation.

(2) That the attempt to impose on the profession cheap mercantile foods, is an insult to the learning of the profession and a menace to our children. We have been too willing to allow the mercantile side of this question to stultify our energies and rob us of our intelligence.

(3) That all patent foods are conspicuously unreliable.

Sharp competition renders them uncertain, and the standard of composition departs from that of human milk.

Finally, filtered milk may be peptonized if necessary, and rendered accurately correct for the feeblest digestion.

THE FIBROID UTERUS. WHEN AND HOW TO OPERATE.

By GEO. ERETY SHOEMAKER, M. D.,

GYNECOLOGIST TO THE METHODIST EPISCOPAL HOSPITAL OF PHILADELPHIA.

The presentation of these two phases of the great subject of Fibroid Uterus will leave out of the present discussion much interesting matter, but is is proposed briefly to indicate what seem to the writer to be the best and most practical working plans.

When does a fibroma call for operation? The answers are different now from ten, or even five years ago. It is not long since careful surgeons advised patients, who had tumors reaching above the umbilicus, to temporize, regardless of pain, provided the bleeding was not actually killing the patient. They were told to await the menopause with its supposed relief. It is now known that the menopause, deferred often for years by the tumor, frequently does not stop the growth. Many tumors increase at about that time. The writer recently successfully removed the whole uterus, together with ovaries and tubes and two small fibroid tumors in a woman 48 years old. She not only had her periods every two or three weeks, years after the average period of the menopause, but had just been bleeding for five months without any remission. Suppose she had been told at the age of 40—eight years before—to await the menopause.

The improvements in technique of the last five years have lessened not only the primary mortality, but have made the risks of hernia less, have done away with traction on the stump and bladder interference, have made it possible to deal safely with small dissecting tumors which formerly could only be attacked by removal of the ovaries, and finally, have made

operations upon fat abdomens much more satisfactory. The advice to submit to operation is, therefore, much more frequently given.

Size has no longer its former important position in deciding the question of operation. A tumor of the size of a duck egg growing forward low down, may by bladder displacement and ureteral irritation and pressure, cause pain and distress out of all proportion to its size. If interstitial and not subject to removal from within the uterine cavity, the resultant bleeding may be excessive, and will very likely fail to be more than temporarily relieved either by medication or electricity, while curettage is very apt to disappoint in results. Although small subperitoneal tumors are not as likely as the submucous to cause bleeding, the writer has known them to cause months of constant flow.

Small tumors then, call for extirpation when local pressure and bleeding are persistent. In judging the amount of bleeding, it is scarcely fair to consider it unimportant if the periods are prolonged beyond seven days and are free, if the flow recurs every two or three weeks, and if several napkins are required daily during the period. Few constitutions can endure this constant drain without serious dyscrasia resulting, and it may become the physician's duty to interfere before the vitality of the patient and her power for future usefulness are exhausted.

Should drugs be employed first, and what drugs? Hydrastis fluid extract twenty to sixty drops, or ergot in corresponding quantities, may be tried. It is usually difficult, however, to demonstrate any distinct permanent improvement from their use, inasmuch as the amount of bleeding varies spontaneously within considerable limits. The claims of electricity have been urged for the treatment of pain and hemorrhage. It must be admitted that prolonged electrical treatment will lessen bleeding in many cases, but it has been the writer's observation that, the tumor remaining, the bleeding will recur after a time, and the question of radical treatment will again assert itself as at first. The writer has in mind, particularly, two cases in private practice, where electricity in skilled hands

failed utterly after months of application. For excessive and persistent bleeding, therefore, regardless of the size of the tumor, removal offers the only certain cure, and in cases otherwise suitable is usually to be advised.

When tumors occupy the lower segment of the pregnant uterus and are of sufficient size to obstruct the labor or have so dissected up the pelvic floor that they cannot be drawn up by uterine contractions above the pelvic brim during labor, hysterectomy should be done in the early months. When with small tumors otherwise harmless, salpingitis occurs, the uterus and tumor should be removed with the tubes.

Pain from fibroids is a symptom which usually becomes prominent only when the growth has attained considerable size. Pressure causes it and also traction upon other structures, as bladder, intestinal adhesions, stretched broad ligaments and the like. While much can be done for the patient's temporary comfort by the knee chest, posture and other measures which relieve the vascular and mechanical pressure or tension, pain will frequently be the determining factor which calls for the removal of a growth.

Size alone becomes with many patients a serious matter, with a decided subjective influence in the mind and a marked effect on the capacity for healthful exercise or employment. As a summary then, it may be said that while the rule adopted for ovarian tumors—remove as soon as discovered—cannot be applied to small fibroids which cause no symptoms, all large, painful, bleeding growths, all those associated with septic inflammation or which are growing rapidly, all which are likely to obstruct labor, call for removal.

A moderate but constant amount of bleeding may become a serious factor by preventing recuperation from some other condition. In early pulmonary tuberculosis, for example, when there is hope for restoration, if the drain from the tumor could be eliminated, the writer would operate for less bleeding than in a person otherwise in health. So, too, the presence of a moderately painful or bleeding comparatively small tumor, may be the factor which prevents the cure of a severe type of neurasthenia or some of the graver types of functional disor-

ders of the nervous system. Rapidly growing myoma of the uterus should always be removed.

Should disease of the lungs, heart, or kidneys prevent operation? In the writer's experience, patients with chronic valvular heart disease, if without atheroma, withstand operation well if there is good compensation in the heart muscle. An irregular or intermittent pulse is a far greater contraindication for operation than a heart murmur. The use of strychnia and whiskey before the operation, careful preparation of the kidneys, the avoidance of too severe preparatory purgation, the early supply of nourishment in the liquid form by the bowels after the operation, i. e., giving beef-tea or peptonized milk by the rectum in the first twenty-four hours, will forestall the failure of a heart which might not otherwise stand the strain.

Hysterectomy will not be considered in advanced phthisis. In incipient phthisis in young women, it may be important to remove a drain and to enable nature to defeat the enemy in detail.

Chronic coughs not due to phthisis will often diappear marvelously after removal of any abdominal tumor. In hopeless kidney disorganization with purulent urine and large granular casts, no operation is advisable.

It must be remembered, however, that fibroids are predisposing factors to kidney disease, for example, by obstructing the ureter, interfering with bladder drainage, and unless the kidney lesion is too far advanced, relief of pressure and lessened kidney work after the operation, may enable restoration to take place. In the writer's practice, if the operation is imperatively demanded, if the general condition of the patient is fair, if there seems a reasonable chance, after study of the case, that there remains a fair amount of active kidney structure, the operation is performed, but much greater care is exercised as to previous diet and preparation as to the amount of ether used, duration of the operation, and the like.

The writer recently removed successfully under chloroform, an epithelioma of the clitoris in a case where the urine, after boiling, showed one-fifth of its bulk of albumen before preparatory treatment began. The longer operation of hysterectomy

would be declined in such a condition, however. In brief, complicating diseases of heart, lung or kidney may contraindicate operation, but where relief of symptoms is imperative, the somewhat increased risk should be explained to the patient and friends, and careful preparation and attention relied upon to forestall difficulties and meet them if possible before they arise.

How shall the operation be done? A small submucous tumor can be shelled out of its bed. If multiple nodules exist, however, in other places not amenable to intra-uterine treatment, total removal of the uterus is indicated. A subperitoneal growth may also be shelled from its capsule with good result after opening the abdomen.

Removal of the ovaries for the cure of fibroid is in general not a desirable operation in the writer's opinion. It does not always stop either the bleeding, the pain or the growth, and that many fibroids continue to grow after the natural menopause, is proof that their growth is not wholly dependent on the ovarian and tubal functions. This operation itself is often difficult and dangerous, the ovary being spread out in a thin sheet or buried beneath the tumor and entirely out of reach. The tubes are tightly stretched and applied to the tumor, or are diseased and adherent, their outer portions dipping down beyond the reach of safe ligation. The ligation of tubes and ovaries may be nearly as formidable as hysterectomy, and it leaves the abdominal organs still embarassed by tumor pressure.

In the judgment of the writer the method of hysterectomy by ligation of vessels through abdominal incision, is by far the safest and best procedure; dropping the stump, stitching the peritoneum over it if the cervix is left in as usual, or draining through the vagina if the cervix is removed also.

The writer has operated for uterine fibroids (a) by the vagina alone; (b) through the vagina first and then finishing from above by ligation; (c) by ligation from above, amputating and leaving the cervix; (d) with the Koeberle constricting nœud, left on to hold the stump at the lower end of the incision; (e) by the removal of ovaries and tubes. He has seen various

operations in the hands of others with their immediate and remote results. Observation and experience lead to the above conclusion, that except in the case of the very small growths which can be removed by the vagina, where the outlet is large, and where the likelihood of complicating inflammatory disease of tubes and ovaries is small, hysterectomy by the ligation method from above the pubis is the method of the present and of the future.

The method by the nœud is probably easier for the beginner, and may be necessary where speed calls for the sacrifice of everything else, but its objections have banished it from the writer's practice.

OBSCURE TRAUMATIC LESIONS OF THE ENCEPHALON.

By WALTER H. PARCELS, M. D.,

OF LEWISTOWN.

It will be conceded, I think, that injuries of the head require more skill on the part of the surgeon than do injuries located in any other part of the body. Lesions of a surgical nature connected with the encephalon, I hazard nothing in saying, are always obscure. Difficulty in diagnosis, is the first lion in the way that confronts the surgeon when called to such a case. If there is a wound of the scalp, accompanied by fracture of the skull at almost any point save the base, a prompt and reasonably accurate diagnosis is entirely possible; but even then a grave doubt exists frequently as to how much injury the encephalon may have sustained. The prognosis should always be guarded.

If, however, the symptoms lead us to suspect a fracture at the base with its accompanying injury to the brain, a prompt diagnosis is utterly impossible. I will very clearly illustrate this last statement by the details of a case I attended last November.

Case 1.—On my return from a trip to the country, and when nearly home, I encountered a crowd of excited people in the roadway. On the bank a man sat holding his twelve year old boy. Possibly fifteen minutes before the boy had been thrown from a horse going at full gallop; many had seen the fall but none could tell the manner in which the boy had struck the ground. A hasty examination showed extensive bruises on both legs, the left ear full of blood and the hair on the left side of the head saturated with it; boy was comatose. In a few minutes he vomited profusely, but rallied only enough to moan occasionally while I was taking him to his home, a half mile distant.

Placing patient on a lounge, I made a careful examination. Removing matted hair, I found a scalp wound the size of a silver quarter. The skull was smooth—periosteum not injured at this point or any other place my fingers could reach. On removing blood from ear the supply was slowly reproduced; whole amount of bleeding from the ear probably a drachm or two. Boy vomited again, moaned frequently, rolled head from side to side when I touched the wound and swore when I applied the sutures, but gave no heed when spoken to. Pulse about 110 and feeble with cold extremities, in short there were well-marked symptoms of shock.

I diagnosed concussion of brain with a possible fracture at base of the skull and more or less injury to the encephalon. Prognosis doubtful. Dressed wound antiseptically, applied warmth to the body, etc., and left him for the night.

The following morning, case about the same, no further signs of returning consciousness. During next twenty-four hours he lost a little. Pulse was getting very slow, 60 to 70 per minute, temperature slightly subnormal. My neighbor, Dr. Sweigart, saw the case with me.

I may cover the symptoms during the next week in few words. No return of consciousness, paralysis of left arm and leg as indicated by movements of the boy's body, external squint of left eyeball, drooping of right eyelid, pulse frequently down to 50 per minute, temperature generally below normal, respiration very slow and marked by frequent cessations, indicating the near approach of death.

He would swallow anything that was placed in his mouth, so he was given milk and a combination of potassium iodide, potassium bromide and digitalis, and an occasional suppository was used. For the first time, on the *ninth* day, he made an effort to protrude the tongue when I asked him to. This was apparently the first he had heeded anything said to him. The Rip Van Winkle sleep now began to leave him and he was soon able to talk. At the end of four weeks he could walk very well and seemed all right save weak, and the left foot seemed a trifle paralyzed yet.

Three months later the boy was entirely well, but still had a tendency to diplopia.

What was the correct diagnosis in this case? Was there a fracture of the skull? Was the encephalon injured, if so, how much? Was there a better plan of treatment than mine? I shall always incline to the opinion that the skull was fractured at the base, that there were small clots located at different intracranial points, that the meninges were more or less injured, and that the recovery was exceptional. I shall regard head symptoms with much concern should the boy in future be attended with any serious illness.

CASE 2.—More than twenty years ago, a young man while at work received what his fellow workmen thought a very slight blow over right ear. He continued his work for an hour or so and then, feeling slightly nauseated went home, where his mother, addicted herself to the opium habit, gave him a dose of morphine, probably a third of a grain, but it might have been more. I saw him two and a half hours after the receipt of the injury; he was then profoundly comatose. Cold water dashed into his face finally elicted the word "don't." I examined his head carefully but found no sign of fracture of the skull. There was, however, a contusion (slight) just above right ear. The few movements of the body showed complete paralysis of left side. Pupils contracted.

Diagnosis: Blood clot at seat of injury on right side, brain greatly compressed at this point. Morphine poisoning? Well, I simply didn't know, but didn't believe it existed. However, gave strong coffee, placed patient in comfortable position and awaited results. They came in just 13 hours after receipt of injury, and came on the wings of the silent messenger whose approach we all await with fear and trembling.

Post mortem held following day: No fracture of the skull, but a large clot, possibly six ounces or more, at seat of injury. The skull was exceedingly thin and some of the blood vessels of the piamater were ruptured.

Was a correct ante-mortem diagnosis possible in this case? Was there anything more I should have done in the way of treatment?

CASE 3.—Some ten years ago a three year old boy fell from a second story window and alighted upon a wooden step. He was first seen by another physician. Case came into my hands as the family physician six hours later; boy had remained in a comatose condition all the time. There was a well marked contusion directly in the centre of the forehead. There seemed to be no injury anywhere else. Was the skull fractured at this point? What damage had the encephalon sustained? Was this coma due to concussion? The boy surely was conscious of pain, for he tried to roll the head beyond my reach when I touched the injury.

The other M. D. assured me that the boy was less sensitive to the touch immediately after the receipt of the injury, and a careful examination made then showed that the skull was not fractured. I accepted his diagnosis, viz.: severe concussion of the brain. There was probably no extravasation of blood for there plainly was no paralysis, the boy being able to move all his extremities. I hoped the brain tissue was not injured. I treated the case on the expectant plan after having given a very guarded prognosis. The eyes soon became closed as a result of the swelling; the patient did not rally and about three days after the injury had a severe chill. He seemed to shiver, and had on the arms that well known symptom called "goose-skin." The temperature immediately became very high.

At this point I think acute meningitis supervened. Patient gradually grew worse and died about three days later.

Was there meningitis in this case? Was the skull fractured and a spicule of bone driven into the brain? I have never felt that I quite did my full duty by accepting the diagnosis given by another M. D. when I was the family physician. I think I should have etherized, and if need be, cut down and carefully examined the bone for fracture. The final result though, would have probably been the same.

These three cases sufficiently illustrate the points I wished to cover in this short paper. I was about to give what I believe to be the recognized surgery of to-day in cases of obscure traumatic lesions of the encephalon, but what is the use? The treatment of to-morrow may be different from the treatment to-day. These *fin de siecle* days are halcyon days for the surgeon. The discoverer with flaming torch goes boldly forth to startle the world, while the surgeon with restful mien leans back in his easy office chair and awaits the day when he can say to his assistant, "John, please get out the X-rays and take a cathodic photograph of that patient's brain, so that we may know whether we shall need the trephine and forceps to remove a spicule of bone, or the trephine and suction pump to remove an intracranial blood clot."

THE MEDICO-LEGAL ASPECT OF EYE AND EAR CASES.

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Mr. President, Ladies and Gentlemen :—The subject chosen for my paper is one of special interest to me, and, I feel assured, it will be to the general practitioner, if I succeed in impressing upon your minds the necessity of a certain professional relationship which should exist between the general practicing physician and the specialist, in the examining and treatment of accidental eye and ear injuries, preparatory to what may become medico-legal cases. My subject is such an extensive one, that I will confine my remarks more particularly to accidental injuries. I wish to call your attention to the following points of interest:

1st. The kind of examination, and record of the case, that should be made by the physician in attendance at the time of the injury.

2d. The kind of cases which should be examined by a specialist, or one skilled in the treatment of diseases and injuries of the eye and ear.

3d. Some of the requirements that are a necessity to the general physician and specialist in medico-legal cases, and their advantages to the plaintiff and defendant in suits for damages. To illustrate the first division of my subject, I will cite a case which answers almost every point I wish to impress upon you, as regards the kind of an examination, record, etc., that should be made in such cases.

In October, 1892, I was sent by a railroad company to examine the eyes of Mrs. S., who, one year and three months previously, had been in a wreck on their road, and claimed that her present defective vision was

due to injuries received at that time, and, as a result, brought suit against the company for damages. A careful examination of the fundus of each eye revealed dense opacities in the vitreous humors of both, and, on account of their density, no good view of either fundus could be obtained; yet, to me, it evidently was a case of disseminated choroiditis, which is generally the cause of these opacities and diminution of vision. Hemorrhage into the vitreous may also cause similar results. This, it was claimed was the cause, and that is was due to the blow she received as the car turned over. The attending physician had not made an ophthalmoscopic examination of either eye at the time of the accident, and hence he could not say what the interior of the eye looked like, whether any hemorrhages were present or not, but the patient claimed that, from that time on, her vision was impaired, and the jury awarded her damages accordingly.

Had a careful ophthalmoscopic examination been made at the time of the accident, and a full record of the case been kept, either by the physician in attendance or by a specialist, the opacities in the vitreous, I think, would have been discovered already present at that time, and the verdict would have been the reverse. This case shows conclusively that in all accidental cases involving the eye or its appendages, a careful history of the patient should be taken, a minute examination of all the injured parts should be made, notes of a careful ophthalmoscopic examination should be kept, and, if the attending physician is not competent to do this, the patient should be sent to one who is competent, or a skilled man sent to see the patient at his own home; and it should be done immediately.

Second. I think that in all cases of accidents involving the eye-ball, cornea, lense, iris, fractures of the orbit, or where the vision of your patient may be impaired in any manner whatsoever, from intra- as well as extra-ocular injuries or diseases, and in all cases where there are hemorrhage from the ears, signs of fracture of the skull involving the ear—where a careful examination for any previous existing deafness should be made, and a minute record kept; in all these cases the physician in charge should have in consultation a specialist, unless he is capable of studying them himself in a skillful manner.

As previously mentioned, the consultant should be called in immediately after the occurrence of the accident. This would

be for the benefit of the patient, as well as for any future legal complication that may arise. Take nothing for granted; be sure you are doing all you can for your patient's welfare, as well as for all parties concerned. A large sum of money may be due your patient for injuries sustained in an accident, or a like amount may be unjustly demanded of a corporation, especially when the cause of the alleged injuries existed prior to the accident. This can only be determined intelligently by a careful examination at the time of the occurrence of the alleged injuries.

I was also asked to examine the hearing of a patient who had been in a railroad wreck, and had entered suit for damages against the company, in which I am confident her deafness was due to a chronic catarrhal otitis media, which had existed for years previously, yet this patient received several thousand dollars to settle the case without ever going into court.

Was this justice to all parties concerned? Had this case been examined carefully at the time of the accident, and an accurate record kept of the case, it no doubt would have been tried by a jury, and the verdict would have been in favor of the defendant. At least, both plaintiff and defendant would feel as though justice had been done, if a skillful examination of the patient had been made, regardless of what the verdict of the jury might have been.

A third case, of a severe neuralgia of the superior maxillary nerve, which at times involved the ophthalmic branch, distributed to the eye, was sent to me by a prominent attorney, who claimed damages against a borough for alleged negligence on their part in not keeping the street crossings clear of snow. His client had slipped and fallen, crushing in the malar bone and thus injuring the nerve, and causing a chronic neuritis of the superior maxillary nerve, with some pain in the ophthalmic branch, which occasionally caused him some pain in his eye, but had not in the least affected his vision. This accident occurred over a year previous to the plaintiff bringing suit for damages, and, at the time the case was sent to me—almost two years after the accident—the claimant had perfect vision with his error of refraction corrected with lenses, very seldom any pain in his eye, and I could not discover any trace of impairment of vision in any manner whatsoever. This man wanted me, if possible, to discover something wrong with his eye, so he could demand a larger sum of money when he instituted his suit for damages. No care-

ful examination was made at the time of the accident, no records kept, and, as a result, no definite testimony could be procured, either for the plaintiff or defendant.

Cases are rare, indeed, where accurate and full records are kept, and yet we are constantly seeing them. Let us try, at least, to show our professional skill in these cases, so that we may appear as experts, and not as mere figure-heads, when summoned before a court of justice.

Third. The requirements of the physician and ear specialist in a court of law in eye and ear cases, from a medical standpoint, are so numerous and complicated that I can but refer to a few of the more important ones. First of all, you should thoroughly understand the anatomy and physiology of the eye and ear, so that you can intelligently answer all questions relative to injuries of the parts. You should be familiar with the use of the ophthalmoscope, be able to use it, and differentiate a diseased eye-ground from a normal one. It is well to know the general appearance of interstitial keratitis, and that it is only syphilis, be it hereditary or acquired, that will produce that characteristic condition of the cornea, which, when once seen, is never forgotten. You should know how to treat the eyes properly, and perhaps save your patient from becoming blind, and yourself from being sued for malpractice. Gentlemen, it is necessary you should know something about such cases, or else send them to some one who does, and then you assume no responsibility. Be careful to always state the probable results, be they good or bad. Make no promise of good recoveries, or as to length of time of treatment required, for if you do, and your promises are not realized, but on the contrary your patient gets blind or deaf, and if you are unfortunately worth considerable money, you may lose it soon by paying damages and attorney's fees.

In ear cases you should be able to detect a simulating case of deafness from a genuine one: the appearance of a recent ruptured tympanic membrane from a perforation produced by a suppurating ear. Suppose a pupil comes from school complaining of pain in one of his ears, and tells his parents his teacher hit him on his ear with the flat of his hand, the parent

takes him to his family physician to have his ear examined; he finds a ruptured drum membrane, the case is taken into court, and, under cross-examination, you, as the attending physician, are asked: Doctor, how do you know that the rupture of the drum membrane of this child's ear is not an old perforation produced by a suppurating ear? If you have ever seen cases of that kind, and remember their appearance, you will know how to answer intelligently.

Traumatic perforations have traces of blood, fresh or dried, around the edges of the wound, and in using Valsalva's method of inflating the ear, the air passes out easily into the auditory canal, whilst in pathological perforations it makes its exit only under greater pressure, and produces a whistling sound; also, that in rupture of the drum membrane from compressed air in the auditory canal, the rupture usually occurs at the periphery of the membrane, while in rupture from fractures of the bony parts, produced by kicks, blows, etc., upon the ear, it occurs in any part of the drum membrane. This is accounted for as follows, and is important in a medico-legal point of view. The drum membrane is generally somewhat contracted towards its centre by the oto-muscular apparatus, and rupture is often favored by chronic hyperplastic forms of catarrh, atrophy and cicatrices near the periphery of the drum-head, making this its weakest point where the rupture most always occurs. The examination of the ear should be very thorough, following recent accidental injuries. You should always use reflected light and an ear speculum in examining it, so that when asked upon the witness-stand as to what kind of an examination you made, you can at least give an intelligent reply. An employé may claim damages for loss of hearing, claiming it to be from a blow on the ear, when, upon examination, it is seen to be due to impacted cerumen.

I was asked to examine a case in which a large amount of money was demanded for loss of hearing; but after I removed a lot of impacted cerumen, and two dead bed-bugs from the patient's ear, his hearing distance was normal, and he never said a word about damages after that.

The same precautionary measures, qualifications, examina-

tions, records of cases, etc., apply equally as well to diseases of the eye and ear as they do to accidental injuries, which may come under our care in general practice, or as specialists, and we should never undertake a case without consultation, unless we fully understand the nature of the disease we are about to treat, or have previously seen similar cases treated or operated upon by some one skilled in their perfection. For, by so doing, we avoid suits for malpractice, and share the responsibility. This duty we owe to ourselves as well as to our patients. An intelligent community demands this of us, and if we heed not the warning we must suffer the consequences.

When on the witness-stand, answer only such questions as you are obliged to answer, and do it in plain language and in as few words as possible. If you can better illustrate what you mean, by models, etc., to a jury, do so. A juryman once said to me, "In medical cases we want the witness to use plain language, and well illustrated, if possible." In conclusion, allow me to summarize the following points of interest from the foregoing remarks:

1. In all accidental injuries, and operative cases, as well as in general diseases of the eye and ear, make a thorough examination of the parts involved. Keep a record describing in detail all the parts injured, and your opinion as to any previous pathological conditions that are present now, and may have existed prior to the present injuries sustained, and the relation they bear to each other as regards the impairment of vision or hearing for the present or future.

2. If you are not capable of using skillfully the ophthalmoscope, or the ear speculum with reflected light, have a consultation with some one who is expert in their use, and do it immediately after you are first called to see the case.

3. It is necessary to be well versed in the anatomy and physiology of the eye and ear. Study it in health and disease, so as to be able to distinguish between normal and pathological conditions, and especially try to have lots of experience with cases, for if you lack in this particular, you had better not approach a witness-stand.

4. Consider well the interests of the plaintiff as well as the

defendant. State nothing but facts, and in as few words as possible.

5. Always get the consent of the proper authorities before performing any operations, and never promise your patients any definite results, or how soon they will or will not recover from any injury or operation. I am speaking from experience, which, after all, is the best teacher.

REDUCED PERIOD OF INTUBATION BY THE SERUM TREATMENT OF LARYNGEAL DIPHTHERIA.

By EDWIN ROSENTHAL, M. D.,

OF PHILADELPHIA.

At the last meeting of this Society, I had the honor of presenting a paper on the treatment of laryngeal diphtheria by diphtheria antitoxin, with and without intubation; further experience in this method of treatment has so impressed me, that I am prompted to appear and place before the Society, the results of my further personal observations in the same character of cases, with this distinction: I shall limit myself to those cases only, that required intubation and place in comparison cases that were intubated prior to the serum treatment and cases that required tracheotomy. To do this more properly I have sought aid from statistics of others, and placing them side by side wish to prove:

1st. That the operation of intubation is the most desirable; and more favorable than that of tracheotomy.

2d. That with the serum treatment of diphtheria, tracheotomy will no longer be necessary in this disease.

3d. That the serum treatment in diphtheria has made a most marked and favorable reduction in the time the tube is worn in the larynx.

As a basis, I shall take the recoveries reported by me in a paper entitled "A report of 100 cases of Diphtheria of the Larynx treated by Intubation." (*Med. Bulletin*, Sept. and Oct., 1894).

Inasmuch as formerly the major operation of tracheotomy was indicated in those cases requiring intubation longer than 120 hours (5 days) or where severe decubitus was present, I

shall divide these statistics into percentages, representing cases intubated under and above 120 hours.

I shall also group my statistics into two parts, representing American observers on the one part and European observers on the other, and in a summary group them together. My reason for so doing is this: the technique pursued is different. As O'Dwyer justly says: "The best statistics on this point will come from the other side, where it is customary to leave the string attached and to remove the tube every 24 to 48 hours. I, however, do not consider it good practice unless the string is removed."

I might add that in my practice I employ as many as five tubes of one size, and as soon as the tube has been used, have it cleansed and re-gilded, and, therefore, use a comparatively new tube for each case; when the tubes are returned from my instrument makers, Messrs. Charles Lentz & Sons, they are thoroughly cleansed, boiled and then placed in my case for use. O'Dwyer's technique is followed, but the one intubation is performed if possible, waiting until I think the time most proper to make the final extubation. The silk, in all cases, is removed at once, and the patient permitted as much freedom as is possible with safety; this method is pursued by most all American operators, and will explain the difference in the time between American and European statistics, and is the chief reason for the method of presenting my statistics.

BEFORE SERUM PERIOD—AMERICAN.

In my series of cases there were 38 recoveries in 100 cases—a mortality of 62 per cent.

The tube was worn:

48 hours in 4 cases.
60 hours in 1 case.
72 hours in 1 case.
96 hours in 6 cases.
120 hours in 6 cases.
144 hours in 6 cases.
192 hours in 5 cases.
216 hours in 5 cases.
240 hours in 2 cases.
364 hours in 1 case.
672 hours in 1 case.

The minimum duration was 48 hours; the maximum 672 hours. Taking the number of hours 6040 and dividing by the number of cases, 38, the average time the tube was worn was $185\frac{1}{4}$ hours.

That is to summarize:

Under 120 hours 12 cases 31.40 per cent.
Over 120 hours 26 cases 68.60 per cent.

Dillon Brown (June and July, 1887) places the time for final extubation at 5 days, $3\frac{1}{2}$ hours—that is, $123\frac{1}{2}$ hours.

O'Dwyer collected 158 recoveries in which the time the tube was worn was accurately stated, and the average found to be 6 days and 2 or 3 hours (146–147 hours).

Louis Fischer reports to me 16 recoveries in which the tube was worn as follows:

50 hours in 1 case
60 hours in 1 case
72 hours in 1 case
96 hours in 1 case
} 25 per cent.

148 hours in 2 cases
152 hours in 1 case
164 hours in 1 case
184 hours in 1 case
192 hours in 1 case
212 hours in 2 cases
340 hours in 2 cases
524 hours in 1 case
624 hours in 1 case
} 75 per cent.

The minimum duration in Fischer's cases was 50 hours; the maximum 624 hours. Taking the number of hours, 2818, and dividing by the number of cases, 16, the average time the tube was worn was $176\frac{1}{8}$ hours.

That is to summarize:

Under 120 hours 4 cases 25 per cent.
Over 120 hours 12 cases 75 per cent.

EUROPEAN.

Gustav Baer (*Trachotomie and Intubation in Kinderspital Zurich-Inaugural dissertation*, Leipzig, 1892) performed final extubation in his cases of recovery at the Zurich Children's Hospital, as follows:

1 day in 1 case 2 days in 5 cases 3 days in 6 cases 4 days in 3 cases 5 days in 5 cases	64.50 per cent.
6 days in 1 case 8 days in 3 cases 9 days in 2 cases 10 days in 2 cases 33 days in 1 case 34 days in 1 case 52 days in 1 case	35 per cent.

To summarize:

Under 120 hours there were 64.50 per cent.

Over 120 hours there were 35.50 per cent.

Professor Von Ranke (*Munchener Med. Wochenschrift*, 1895, No. 8) performed in those cases of recovery, before serum treatment, final extubation as follows:

Within 24 hours in 8 per cent. Within 48 hours in 26 per cent. Within 72 hours in 18.5 per cent. Within 96 hours in 20 per cent.	72.5 per cent.
Over 96 hours in 27.5 per cent.	

Von Ranke's cases 72.50 were extubated within 96 hours.

Huebner (*Klinishe Studien uber die behandlung der Diphtherie*, Leipzig, 1895) in 25 cases of recovery has given 100 hours as an average when final extubation could be performed.

John Bokai (*Stephanie Kinder Hospital*, Buda Pesth) reports 673 cases intubated by himself before the serum period, of which 223, that is $33\frac{1}{3}$ per cent were cured. Of these 223 cases, 8 were tracheotomized; if we subtract these we have 215 cases in which the tubes were worn as follows:

From $\frac{1}{2}$ to 24 hours in 27 cases 12.55 per cent From 24 to 48 hours in 56 cases 26.04 per cent From 48 to 72 hours in 52 cases 24.18 per cent From 72 to 96 hours in 29 cases 15.50 per cent From 96 to 120 hours in 13 cases 6.06 per cent	82.33 per ct.
From 120 to 144 hours in 21 cases From 144 to 168 hours in 6 cases From 168 to 192 hours in 1 case From 192 to 216 hours in 2 cases From 216 to 240 hours in 1 case Over ten (10) days in 7 cases	17.67 per cent.

The minimum durations in Bokai's cases were $\frac{1}{4}$, $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2, 6, $6\frac{1}{2}$ and 9 hours; the maximum durations were 217, 218, 243, 247, 349, 353 and 368 hours.

Taking the number of hours ($17{,}050\frac{3}{4}$) and dividing by the number of cases (215) the average duration the tube was worn would be 79 hours.

Bokai observes that in his hospital the removal was never attempted under 48 hours. In those cases of 12.55 per cent, where the tube was worn not longer than 24 hours, the tube was either expectorated or withdrawn by pulling on the silk, which he always allowed to remain; and stenosis being relieved, no further intubation was practiced in that particular case.

SERUM PERIOD—EUROPEAN.

In juxtaposition to these statistics I will now give the statistics influenced by the serum treatment.

Huebner (*Klinishe Studien, etc.*) reports 10 cases of intubation treated with antitoxin, where the average duration was 37 hours. In Von Ranke's cases the tube was removed

Within 24 hours in 18 cases 18.5 per cent.
Within 48 hours in 48 cases 48.1 per cent.
Within 72 hours in 11 cases 11.1 per cent.
Within 96 hours in 10 cases 10.0 per cent.
Over 96 hours in 3 cases 3.7 per cent.

Of 90 cases intubated by Bokai since the serum period, 45 recovered—50 per cent. Of these, one case (183 hours) was tracheotomized, therefore 44 cases were treated by simple intubation.

The duration of the intubation in these 44 cases was as follows:

1 to 24 hours in 8 cases 18.18 per cent.
24 to 48 hours in 18 cases 40.90 per cent.
48 to 72 hours in 8 cases 18.18 per cent.
72 to 96 hours in 4 cases 9.09 per cent.
96 to 120 hours in 2 cases 4.54 per cent.
120 to 144 hours in 1 case 2.27 per cent.
144 to 167 hours in 3 cases 6.84 per cent.

Total, 44 cases.

In this group the minimum were 1 and 7 hours; the maximums 150, 154, 160 hours.

Of these (44) cases,

77.26 per cent were extubated within 72 hours.

13.63 per cent were extubated between 72 and 120 hours.

9.11 per cent were extubated after 120 hours.

To show the comparison between the two periods, before and after serum treatment, Bokai tabulates his cases as follows:

Duration of Intubation.	Before the Serum Period Per cent of cures.	After Serum Period. Per cent of cures.
¼ to 24 hours.....	12.55 per cent	18.18 per cent.
24 to 48 hours.....	26.04 per cent.	40.90 per cent.
48 to 72 hours.....	24.18 per cent.	18.18 per cent.
72 to 96 hours.....	13.50 per cent.	9.09 per cent.
96 to 120 hours.....	6.06 per cent.	4.54 per cent.
120 to 144 hours		2.27 per cent.
144 to 168 hours		6.04 per cent.
168 to 192 hours, 192 to 216 hours, 216 to 240 hours, over 240 hours	17.67 per cent.	

This table shows that the number in the first and second 24 hours has conspicuously increased.

If we were to add the number of hours together as in the former cases we have 2683 hours, 44 cases; the average being 61 hours against 79 hours before the serum period. Therefore, the serum treatment has lowered the duration of intubation 18 hours.

AMERICAN.

O'Dwyer intubated 30 cases since the serum period, of which 20 recovered—66 per cent.

The duration of the intubation in 19 of these cases was as follows:

8 hours in 1 case
36 hours in 1 case
48 hours in 1 case
49 hours in 1 case
68 hours in 1 case } 89½ per cent.
69 hours in 1 case
76 hours in 1 case
84 hours in 1 case
88 hours in 1 case

91 hours in 1 case	
92 hours in 2 cases	
93 hours in 1 case	
107 hours in 1 case	
112 hours in 1 case	$10\frac{1}{2}$ per cent.
115 hours in 1 case	
119 hours in 1 case	
120 hours in 2 cases	

In this group the minimum was 8 hours; the maximum 120 hours.

Final extubation was performed in $89\frac{1}{2}$ per cent (17 cases) within 120 hours, and $10\frac{1}{2}$ per cent (2 cases) at 120 hours.

If we add the number of hours the tube was worn (1587) and divide by the number of cases, 19, it will leave the average $83\frac{1}{2}$ hours. In comparison to 147 hours in those cases before the serum period. Therefore, the serum treatment has lessened the time of intubation $63\frac{1}{2}$ hours. O'Dwyer has written me that the average duration of intubation since the serum period has been 80 hours, making his reduction, therefore, 67 hours.

Dr. Louis Fischer reports to me 30 cases of recoveries after intubation, since the use of antitoxin. In his cases the tube was worn as follows:

16 hours in 1 case	
24 hours in 1 case	
36 hours in 1 case	
48 hours in 3 cases	
52 hours in 2 cases	
64 hours in 6 cases	$63\frac{1}{3}$ per cent.
72 hours in 1 case	
76 hours in 1 case	
84 hours in 1 case	
96 hours in 1 case	
116 hours in 1 case	
128 hours in 1 case	
140 hours in 1 case	
156 hours in 1 case	
164 hours in 1 case	
192 hours in 1 case	
240 hours in 1 case	$36\frac{2}{3}$ per cent.
246 hours in 1 case	
284 hours in 1 case	
296 hours in 1 case	
324 hours in 1 case	
408 hours in 1 case	
Total 30.	

In this group the minimum was 16 hours, the maximum 408 hours.

63⅓ per cent were extubated before 120 hours.
36⅔ per cent were extubated over 120 hours.

To show the comparison between the two periods, before and after serum treatment, I shall tabulate Fischer's cases the the same as Bokai's:

Duration of Intubation.	Before the Serum Period. Per cent of cures.	After Serum Period. Per cent of cures.
16 to 24 hours.....		2 cases 6⅔ per cent.
24 to 48 hours.....		4 cases 13⅓ per cent.
48 to 72 hours	3 cases 18.75 per cent.	9 cases 30 per cent.
72 to 96 hours.....	1 case 6.25 per cent.	3 cases 10 per cent.
95 to 120 hours.....		11 cases 36⅔ per cent.

To summarize:

Before 120 hours 25 per cent. 63⅓ per cent.
After 120 hours 75 per cent. 36⅔ per cent.

This table shows that the number in the first three days has increased. If we were to add the number of hours together, 3262, and divide by the number of cases, 30, the average time would be 108¾ hours. In comparison to the average time before the serum period, 176⅛ shows a reduction in time the tube was worn of 68 hours.

The cases intubated by me since the serum period were as follows: (See page 246.) Of these two died, 10 per cent.

In those cases recovered, the duration of intubation was as follows:

1 case in 12 hours
1 case in 21 hours
1 case in 48 hours
1 case in 70 hours
1 case in 73½ hours
1 case in 82 hours } 66⅔ per cent.
1 case in 91½ hours
2 cases in 96 hours
1 case in 98 hours
1 case in 103 hours
1 case in 75 hours

No.	Name.	Age Yr. & Mo.		Sex.	Complications.	Case of :	Tube worn :	Antitoxin used and time of Injection.
1	E. H.	1	6	M.	Tonsila, Pharynx Laryngeal.	Dr. H. H. Freund.	21 hrs.	Behring's No. 2 (1000 units) 60 hours.
2	A. S.	2	8	F.	Faucial, Broncho- Pneumonia	Dr. L. Wolff.	91½ hrs.	Behring's No. 1 (600 units) 3d day.
3	I. S.	4		F.	Tonsils.	Dr. E. Rosenthal.	Expell. 48 hrs.	Behring's No. 2 (1000 units) 6th day.
4	T. G.	1	1	M.	Faucial, Broncho- Pneumonia.	Dr. E. Rosenthal.	73½ hrs.	Behring's No. 1 (600 units) 4th day.
5	M. E.	1	7	M.	Sepsis.	Dr. J. J. Owen.	49 hrs.	Behring's No. 2 (1000 units) 72 hours.
6	E. C.	2	2	M.	Nephritis Sepsis.	Dr. H. H. Freund.	31 hrs.	Behring's No. 2 (1000 units) 5th day.
7	M. G.	2	9	F.	Tonsils.	Dr. L. Wolff.	Expell. 12 hrs.	Behring's No. 1 (600 units) 30½ hours.
8	G. W.	2		M.		Dr. E. Rosenthal.	6 das. 10 hrs.	Behring's No. 2 (1000 units) 4th day.
9	M. H. G.	3	4	F.	Tonsils.	Dr. E. Rosenthal.	6 das. 2 hrs.	Behring's No. 2 (1000 units) 6th day.
10	A. W.	1	10	F.	Tonsils, Broncho- Pnuemonia.	Dr. C. D. Spivak.	12 das. 3 hrs.	Behring's No. 2 (1000 units) 3d day.
11	L. K.	6	8	F.	Tonsils and Pharynx.	Dr. G. Metzler.	4 das. 2 hrs.	Mulford's (700 u.), Beh. (1000) 3d day.
12	H. G.	5		F.	Faucial, Broncho- Pneumonia.	Dr. G. Metzler.	4 das.	Bronson's (5 cc.), Behring's (1000) 2nd day.
13	L. M.	3		M.	Tonsils.	Dr. L. E. Taubel.	11 das.	Mulford (2300 in 2 injec.) 3d day.
14	H. K.	3	6	M.	Faucial.	Dr. Klein, assisted.	82 hrs.	Mulford (2000 in 2 injec.) 2d day.
15	A. W.	5		M.		Drs. Taubel & Simpson.	7 das. 6 hrs.	Mulford (1500 in 2 injec.) 3d day.
16	D. G.	2	2	F.	Faucial.	Dr. L. E. Taubel.	4 das. 7 hrs.	Mulford (1500 in 2 injec.) 7th day.
17	G. W. L.	4		M.	Faucial.	Dr. G. A. Muehleck.	6 das. 12 hrs.	Aronson's 5 cc. used 3d day.
18	B. E. T.		11	F.	Following Measles.	Dr. G. A. Muehleck.	4 das.	Aronson's 5 cc. used 3d day.
19	M. L.	3	11	M.		Drs. Rosenthal, Freund, M. V. Ball, & Golden.	70 hrs.	Mulford's 2000 units in 2 injections. 4th day 1 cc. = 500 units (Extra-potent).
20	K. L.	2	3	M.	Following Measles.	Drs. B. Segal & Golden.	75 hrs.	Mulford's Potent 1 cc. = 250 units. 3d day 1000 units.

1 case	in 146 hours	$33\frac{1}{3}$ per cent.
1 case	in 154 hours	
1 case	in 156 hours	
1 case	in 174 hours	
1 case	in 264 hours	
1 case	in 291 hours	

If we add the number of hours the tube was worn 2024, and divide by the number of cases, 18, it will leave the average $114\frac{1}{6}$ in comparison to those cases before the serum period, $185\frac{1}{4}$ showing a reduction of $71\frac{1}{12}$ hours.

Tabulating my cases as Bokai's, the result is as follows:

Duration of Intubation.	Before Serum Period. Per cent of cures.	After Serum Period. Per cent of cures.
18 to 24 hours		2 cases $11\frac{1}{9}$ per cent.
24 to 96 hours	12 cases 31.5 per cent.	7 cases $38\frac{8}{9}$ per cent.
96 to 120 hours	6 cases 16.0 per cent.	3 cases $16\frac{2}{3}$ per cent.
120 to 248 hours	18 cases 48.0 per cent.	5 cases $27\frac{7}{9}$ per cent.
248 hours and over	2 cases 5.5 per cent.	1 case $5\frac{5}{9}$ per cent.
To summarize.		
Before 120 hours	47.5 per cent.	$66\frac{2}{3}$ per cent.
After 120 hours	52.5 per cent.	$33\frac{1}{3}$ per cent.

In the operation of tracheotomy I have had no personal experience, but quote E. Kohl (*Jahrgang des Archives fur Klinische Chirurgie, 1887*) who speaks of the difficulty of decanulement after the operation, and places in substantiation the literature up to that date.

The difficulty he assumes (after a study of 800 cases of recovery) to be when the final decanulement cannot take place after three weeks.

There were in	24 cases	final removal in	3 days.
in	71 cases	final removal in	4 days.
in	94 cases	final removal in	5 days.
in	30 cases	final removal between	6 & 10 days.
in	200 cases	final removal between	10 & 30 days.
in	50 cases	final removal between	1 & 12 mos.

and in conclusion Kohl mentions one case in which it was impossible to do away with the tube and which was worn constantly even to the present time.

Bokai's experience in tracheotomy is as follows: In the majority of his cases (84 per cent) he was enabled to withdraw the tube within 10 days; the 6th or 7th day, 44½ per cent; 5 days, 23½ per cent. But in presenting the cases of Kohl and Bokai and placing them in comparison with the results of intubation, the results should claim the attention of every one, and be convincing factors, which prove my convictions against tracheotomy and in favor of intubation.

To compare:

Days.	Tracheotomy. Per cent of cures.	Intubation. Per cent of cures.
Kohl's under 5 days.....	23⅝ per cent.	
Between 5 and 10 days...	37½ per cent.	
Over 10 days.....	38⅞ per cent.	
Bokai's, under 5 days.....	23½ per cent.	83.08 per cent.
Between 5 and 10 days...	60½ per cent.	16.02 per cent.
Over 10 days	16 per cent.	
O'Dwyer s, under 5 days....		89½ per cent.
Between 5 and 10 days...		10½ per cent.
Over 10 days		
Fischer's, under 5 days.....		63⅓ per cent.
Between 5 and 10 days...		16⅔ per cent.
Over 10 days.....		20 per cent.
Rosenthal's, under 5 days.		66⅔ per cent.
Between 5 and 10 days...		22⅔ per cent.
Over 10 days.....		11⅑ per cent.

As there are always physicians in the operative treatment of diphtheria who prefer tracheotomy to intubation, it is advisable to call their attention to the cases I have quoted.

Bokai's cases show the average duration of intubation 79 to 61 hours, and in the majority of his cases (83.08 per cent) final extubation was performed within 5 days (120 hours) even though a relatively large number (in 217 cases—42 cases—16.2 per cent) were intubated over 5 days, without the longer intubation being in any way dangerous. For under the serum treatment no alarming symptoms (Decubitus, etc.) were manifested, for that reason but one conclusion can be borne, that the operation of intubation is alone sufficient, and the secondary operation of tracheotomy can be avoided.

O'Dwyer's cases show the average duration of intubation to be about 80 hours, and in almost all his cases final extubation

was performed within five days. I will quote from a letter received by me from Dr. O'Dwyer, which most forcibly demonstrates the utility of the serum treatment:

"My results up to the present time in 500 cases in a service of hundreds :

"First hundred—largely experimental—	17 recoveries.
"Second hundred	27 recoveries.
"Third hundred	30 recoveries.
"Fourth hundred	26 recoveries.
"Fifth hundred	39 recoveries.

"The marked increase in the last series was due to the antitoxin, in 30 cases of which there were 20 recoveries. In the 70 preceding cases, in which no antitoxin was used, there were only 19 recoveries, which was about the same percentage as in all the other series."

Therefore, O'Dwyer's statistics substantiate my own; from a mortality ranging from 83 per cent to 70 per cent before the serum period, his reduction has been to 30 per cent—and the reduction in time the tube was worn was 67 hours.

Fischer's cases show the same characteristics as O'Dwyer's cases and my own. The average duration of intubation was $108\frac{3}{4}$ hours, and in $63\frac{1}{3}$ per cent final extubation was performed within 120 hours. In one of Fischer's cases seen with Professor H. J. Boldt, intubation and extubation were performed 5 different times during a period of 408 hours, which somewhat raised his average. However, the reduction in time the tube was worn is equal to O'Dwyer's and my own, and averages 68 $\frac{1}{1}$ hours.

The relatively large number (in 30 cases—11 cases—$36\frac{2}{3}$ per cent) were intubated over 5 days (120 hours). No dangerous symptoms arose necessitating tracheotomy. Intubation with the serum has been sufficient in Fischer's hands to perform the cure.

My own series of cases show the average duration of intubation with the serum treatment to be $114\frac{1}{6}$ hours. And in the majority of my cases (12 cases) final extubation was performed within 5 days. In my long cases I have never seen any indication that would call for tracheotomy, and in one of my cases intubation and extubation were performed very frequently with favorable results.

In presenting this paper I have refained from mentioning those cases of laryngeal diphtheria treated with antitoxin which recovered without the aid of intubation. These cases were in greater number than those operated, and the reason has unquestionably been due to the early use of antitoxin.

My conclusions after using the serum treatment in the last 18 months were as follows:

1st. The duration of intubation varies.

In the cases just quoted extubation has been made in from $\frac{1}{2}$ hour to 408 hours. The rule, however, in the majority of cases has been that final extubation can be performed within 120 hours.

2d. The average length of intubation has been reduced to a marked degree.

EUROPEAN OBSERVERS.

Bokai	18 hours.
Von Ranke . . .	$25\frac{1}{2}$ hours.
Huebner	63 hours.

AMERICAN OBSERVERS.

O'Dwyer	67 hours.
Fischer	$68\frac{1}{10}$ hours.
Rosenthal	$71\frac{1}{6}$ hours.

3d. The operation of tracheotomy is avoided, intubation being sufficient to cure even the longest cases—5 days and over—there were no symptoms necessitating such a procedure.

4th. The use of serum has placed intubation on a definite basis.

(a) By lowering the mortality.
(b) By shortening the period of intubation.
(c) By avoiding the major operation of tracheotomy.

SPECIAL FORMS OF RECTAL FISTULA.

By WILLIAM M. BEACH, A. M., M. D.,

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Only in the last decade has there been any considerable enthusiasm evinced by the medical profession in the study of rectal diseases. Now every important city has one or more reputable physicians interested in this line of work, truly adding to the list of legitimate specialties. I do not attempt any originality, but rather to arouse your interest in a field of research much neglected and relegated to quackery.

It is generally conceded that, next to hemorrhoids, rectal fistula most frequently claims the attention of the rectal surgeon. Though the pathology of fistula in ano is familiar to all, and the subject trite, it is the present purpose to direct attention to "special forms" and the surgical procedure towards a cure. Fistulas, with surface openings, will receive no consideration, but rather the blind internal fistulas with a rectal orifice, and those connecting two cavities. Two reasons obtain for presenting these forms: (1) the frequent obscurity of symptoms and lesions, (2) the difficulty in obliterating the abnormal canal.

Many an obscure case of pelvic disease will stand out in clear light through a skillful exploration of the rectum. The uterus and appendages, or posterior urethra, frequently bear the onus of some disease of the rectum, trifling or otherwise, and a failure to cure inevitably ensues.

The internal blind, or the recto-perineal blind fistula is chiefly found in the anterior wall of the rectum, though the submucous variety may occur in any portion; and the opening, usually small, is found in a pocket just above the internal sphincter. Periodically, induration may occur on the surface

which is an aid in locating the sinus that can be traced downward and forward with a bent probe. This condition is not rare, but often overlooked.

The recto-urethral, or recto-vaginal fistula, is the second form I wish to present. It is easy of diagnosis, but difficult to cure, the former being the reverse. The subjective symptoms are certain in the latter for the most part, and leave no doubt in the mind of the physician.

The science of obstetrics in its evolution plays no small part as an etiological factor; the middle of the dying century tolerated a practice of non-interference in the conduct of confinement resulting in anterior vaginal fistula, the result of sloughing tissues from prolonged pressure of the fœtus in the parturient canal. Latterly, an opposite extreme obtains, the too frequent, not to say unskillful, applications of traction instruments, produce extensive perineal lacerations, often obliterating the recto-vaginal body, attended with paralysis of the sphincter; and the traumatism may mark the beginning of the recto-vaginal fistula.

Lithotomy is not without its danger in producing rectal fistula, and may be mentioned as an important factor. Thrusting the knife through the membranous urethra, the rectum may be punctured leading to a permanent tract. This accident was probably more frequent prior to the use of anesthetic agents so conducive to calm deliberation in surgical manipulation.

Abscess is by far the most frequent source of rectal fistulas, in fact, most authors believe it to be a *sine qua non* in their production. Peri-rectal abscess may arise from a constitutional diathesis, or a traumatism surgical or otherwise. The point of least resistance is usually toward the rectal cavity, the abscess becoming a blind internal fistula.

The following illustrative cases came under my observation:

L. S., aged 35; occupation, merchant; family history good; applied to me for the relief of some obscure rectal trouble. He had considerable urethral irritation for which he had been treated over a year, his physician supposing it to be of gonorrheal origin, doubting the emphatic denials of his patient. Careful questioning revealed the fact that shortly before his trouble he had fallen astride of some wares in the basement of his

store, followed in a few days by pain and heat and swelling in the perineum, which suddenly subsided on the appearance of a rectal and urethral discharge, the latter more profuse. At this stage he consulted another physician, who faithfully treated the supposed gonorrheal discharge, which soon stopped. Pain in back and hips and a rectal discharge still persisted, but he was assured that the rectum was healthy, the symptoms being a result of the post-urethral catarrh.

He came to me much discouraged. By aid of a speculum and an electric lamp, a thorough search was made of the lower three inches of the rectum. I found nothing pathological. A third trial about two weeks afterwards was also likely to prove futile. But, when about to withdraw the speculum, I made a pressure on the perineum which forced purulent fluid through a minute orifice on the anterior wall of the rectum. A bent probe entering this brought the exclamation : "You have touched the spot, doctor," and the instrument passed into a large cavity as deep as the urethra, as was subsequently demonstrated by the operation which consisted of free incision and dissection. The patient fully recovered, all nervousness and urethral irritation disappearing.

Here, then, was a perineal abscess, the result of traumatism, opening both into the urethra and rectum, the urethral orifice closing. Microscopy revealed no gonnococci.

The following case is rare, only a few of the kind having been reported. Wyeth reports one, to whom I am indebted for the technique of the operation. This case was the result of lithotomy.

J. W., aged 55; occupation cashier. When nine years old, lithotomy was performed by a prominent Pittsburg surgeon when he was relieved successfully of a large calculus. His recovery was uneventful, but soon after, the patient noticed unnatural sensations which convinced him of a connection between his rectum and urethra. Urine passed in large amounts by the rectum. Gas and fæcal matter by the urethra. He consulted various physicians, who assured him that such a communication, was not probable nor consistent with his apparent good health, and, after several years of futile medication, he suspended treatment.

In October, 1895, after a lapse of twenty years, his condition growing worse, he consulted his physician, Dr. E. L. Neff, of Allegheny, who found a communication between the urethra and rectum by injecting into the urethra several ounces of a weak solution of permanganate of potash. The fluid was found in the rectum. Dr. Neff kindly referred the case to me, when another examination was made. The finger revealed a normal rectum except above the sphincter anteriorly, where it passed into a deep sulcus. Passing a sound through the urethra and in-

serting a speculum into the rectum, a probe readily demonstrated a recto-urethral fistula, the urethral opening being in the membranous portion. The fistula was fully one-half inch in diameter throughout, since the finger passed through readily. A solution of hydrogen peroxide was then thrown into the urethra and readily appeared in the rectum. The wall of the fistula was dark and callous, and the rectal orifice more or less irregular. There was no doubt in the diagnosis of a large patulous tract between these cavities.

November 2, 1895, Drs. Neff and Adair assisting, an attempt was made to close the fistula. Two crescentic flaps were made about the rectal orifice, the primary incision about a half inch from the margin, going through the muscular coats of the bowel. The flaps were dissected up to within an eighth of an inch of the margin between which and the opening the flaps were to receive their nutrition ; they were turned toward each other, the rectal mucous membrane becoming the urethral floor, the raw surface being in the bowel. A line of catgut sutures were placed about a quarter of an inch apart, a rubber tube was placed in rectum for the escape of gas, and a silver catheter retained for ten days through which the bladder was flooded with Thiersch's solution each time after the patient voided urine.

The wound healed kindly and promptly, and a complete obliteration of the fistula was assured. But a few months afterward, the patient still complained of small quantities of urine in the rectum and gas in the urethra, which was only occasional, however. Since the operation, no fæcal matter has appeared through the urethra, and other abnormal phenomena are very much modified.

An examination showed a minute orifice at the upper angle of the wound which failed to unite. The patient is anxious to have this closed, which he will allow us to do the coming autumn, when we hope to fully succeed. There was no extravasation of urine, and his general health is much improved.

The importance of the rectal tube cannot be overlooked in promoting the healing process with a view of obliterating fistulas between rectum and urethra, or vagina. The neglect of this precaution has caused many failures in closing recto-vaginal fistulas on account of gas infecting the wound.

NERVOUS SEQUELÆ OF INFLUENZA.

By HORACE K. REGAR, M. D.,
OF PHILADELPHIA.

Mr. President, Ladies and Gentlemen :—Limited time will not permit of much preliminary dissertation, so it behooves me to advance as rapidly as possible to the subject-matter at hand. In my experience with influenza I have noticed, as many others have, the profound impression made on the nervous system, the marked physical prostration, long continued, with mental depression, even to the extent of melancholia. Concomitant with these were also, as you all have no doubt observed, sweating and chilliness, aches and pains, sleeplessness, poor appetite; continuation of gastric disturbance, with nausea, and even vomiting; especially marked indisposition for all effort, either mental or physical, with dread of impending evil. It would seem (if our powers of observation are not deceived) that, having these symptoms at the beginning of an influenzal attack, we were led to believe that the affection lasts much longer than we have presumed, considering that we base our opinion on the duration of high temperature. However, we know that these symptoms are not entities, or of themselves the sole malady, they being but pathognomonic of some more deeply seated lesion or disturbance in the nervous system.

The great variety of manifestations in which grip presents itself to our observation has, no doubt, had to do with attracting so much interest to it. But, since Pfeiffer, of Berlin, has discovered the bacillus of grip, there is no doubt but that in the future other investigators will turn their attention in that direction. We already attribute to this malady the existence of many serious, painful or uncomfortable afflictions of the various organs, making manifest many that were dormant,

that otherwise would have passed unnoticed. Considering the effect on the nervous system, Althaus says: "Those predisposed by previously existing nervous habit are nearly always sure to prove fatal."

And again, at other times, grip seems to be only the accidentally exciting cause to a mental affection in persons who are strongly predisposed, or who already suffered from previous attacks of insanity or allied neuroses. Thus, there may be a sudden attack of delirium tremens in an alcoholic, or acute mania in one who has already had it, the attack forming, as it were, the last link in a chain of events tending to produce mental disturbance, which might also have broken out in consequence of any other exciting cause, or possibly without any such cause at all. Kraepelin has observed a sudden development of paralysis with aphasia and impaired memory, hypochondriacal, and grand delusions.

The nervous sequelæ occur at varying periods after the apparently complete recovery, and are as various as the sequelæ affecting the other parts of the economy. As I have before noted, the effect on the nervous system may be a simple vertigo or dizziness. Althaus speaks of a "Delirium of Inanition," as he calls it, occurring in a previously healthy young man, who had been strong and of steady habits, who got an attack of grip, and resumed his occupation before permission was granted. His fellow clerks, however, noticed that there was a change. He became negligent, spoke in a foolish manner, and made mistakes in letters and accounts; became untidy and disorderly, and, at times, delirious; but he recovered after treatment by rest, change and a nourishing diet.

The same author, speaking of the delirium of inanition, is essentially appropriate when we take the cause to be a sudden exhaustion of brain power from excessive destruction of the unoxidized albumen of the cerebral tissue. The inanition is so great, sometimes, as to lead to a fatal issue, the patient dying with symptoms of sudden cardiac failure and collapse; or it may go to the extent of profound depression or excitement. Of the cases of depression, Althaus mentions a case of incipient general paralysis of the insane that recovered, and

a case of general paralysis of the insane following a second attack of grip, that ended fatally.

As to the effects of grip on an already existing case of insanity, both Savage and Althaus concur in their reports of cases where there has been a recovery from both maladies, or where, during the attack of the acute disease, there was a remission of the insanity.

Some intensely neurotic persons, who have had not only one, but two, and some three, attacks of grip, have not been troubled apparently after convalescence, either with psychosis or any other nervous affection.

Dr. James Tyson reports a case of a robust woman who was attacked with severe influenza, resulting in marked nervous depression and sleeplessness, who became almost helplessly paralyzed on the right side on the tenth day, by which time the general symptoms had subsided. She died suddenly a little later.

As I have before mentioned, the range of nervous sequelæ of influenza covers almost the entire category of nervous affections; but among the more frequent is neuritis, affecting the various nerves, the great sciatic, the various branches of the fifth, or temporary loss of the senses of taste and smell. Neuralgic pain in the sphere of the supra-orbital nerve is one of the commonest complications. Bilateral facial palsy, torticollis, epilepsy, are also reported to be inheritances of influenza.

Various forms of scleroses of the spinal cord may occur after it, either as a primary sequel or at a later period after other neurotic affections.

Hemianesthesia has been followed by spastic spinal paralysis. Posterior lateral sclerosis is also recorded as a sequel. Only recently there have occurred two cases of Landry's paralysis. One was reported in the *Lancet* for April 4th, a patient under the care of Mr. J. C. Bowie, a boy 17 years of age; and another case, not previously reported, occurring in the epidemic of 1890, illustrates in a measure the influence this malady exerts on the nervous system:

A woman, single, aged 35, had previously enjoyed excellent health. After attack had lost all confidence and nervous power; cried for no rea-

son ; had insomnia and loss of appetite. The knee jerks and reflexes were much exaggerated, and she was in a constant state of despondency.

Another case was of a woman who was previously of a good and amiable disposition, and became melancholy.

In conclusion, I would leave this most interesting subject to your further observation and study, as the field is a rich and varied one.

My especial thanks are due Dr. George C. Küsel, of Philadelphia, for valuable aid in the preparation of this paper.

A CONTRIBUTION TO THE CLINICAL STUDY OF DIGITINE.

By HENRY BEATES, Jr., M. D.,
OF PHILADELPHIA.

Mr. President and Members:—The derivative of digitalis, to which attention is respectfully directed, is digitine, a crystalline principle manufactured by Merck, and in no sense to be confounded with digitaline, which is an amorphous powder manifestly complex, and, for several reasons, less eligible as a remedial agent.

Digitine occurs as a pale, yellowish-white crystalline substance; and, in doses sufficiently large to secure its certain and powerful results, possesses the minimum of irritative quality, and, for this reason, is especially indicated in all diseases where digitalis is required, because its specific action is almost invariably secured without the gastric disturbances so commonly associated with the administration of the official preparations of the drug. Digitine is pronounced by Merck to be "therapeutically inert!" In the dose usually recommended, this statement is true, but when exhibited in quantities of from $\frac{1}{10}$ to $\frac{1}{2}$ grain, from three to six or eight times daily, as conditions require, it proves itself one of the most certain and reliable remedial agents of the Pharmacopea.

Its special range of usefulness centres around cardiac diseases and affections of the vaso-motor system, and in this latter group its power to control capillary circulation and modify nutrition favorably is very conspicuous. The physiological action of digitine is practically that of digitalis, with the absence, however, of the property of irritation to the digestive tract. As for the so-called cumulative action, it is asserted that during fifteen years of extended use of digitine in large quan-

tities, *i. e.*, from 1 to 3 grains daily for long periods of time, it was never observed. In cardiac valvular lesions where hypertrophy and the ultimate degeneration of the myocardium and consequent dilatation occur, the effects of these large doses, continued for months, are truly marvelous. Illustrative of this is the following somewhat unusual, yet typical, instance:

A male, 51 years of age, suffered a mitral regurgitant lesion with the consequent eccentric hypertrophy. He had a typical "cor-bovinum." The dilatation was so marked that the condition is best described by the phrase "water-logged." The serous cavities were the seat of effusion, and the distress from cardiac and pulmonary distension, as well as the cerebral passive hyperemia such, that dissolution was hourly expected. The cutaneous structures had ruptured, and thus a slight degree of relief had been secured. The ordinary official preparations of digitalis were being skillfully administered, but the irritative property, so well known, rendered it impossible to administer the drug in sufficient doses to secure results. Digitine in ½-grain doses was given every two hours until 3 grains were exhibited, when the quantity was carefully diminished, and in a brief time thorough convalescence was established. The sufferer was enabled to assume the duties of night watchman, in which capacity, exposed to the vicissitudes of weather, he served for more than five years. His sixth year, literally living upon digitine, found him gradually succumbing to a condition which, as many years before, would certainly have proved fatal had not this remedy been exhibited in these relatively enormous doses.

The several instances of this type of sufferers were similarly relieved, and proportionally to the extent of lesion was life prolonged for from two to eleven years.

Let me repeat: digitine was exhibited more or less constantly throughout these long periods of time, in the doses mentioned. There were, of course, intermissions of its use as nutritional results rendered possible. A conspicuous phenomenon in these cases is the almost immediate disappearance of the dropsies, and the question naturally arises, Why? Reflection clearly demonstrates that it cannot be due to a restoration of power to the myocardium in so short a time, and consequently is not dependent upon a sudden return of normal or inherent potential energy to the heart muscle. It can only be dependent upon a direct stimulant action upon the governing centre and intra-cardiac ganglia, and also a similar influence upon

the vaso-constrictors and structure of the arterioles and venules. This power to stimulate innervation, if maintained by the skillful administration of digitine for a sufficiently long time, will enable the restorative power inherent in living structure to effect a return to the normal. Its special and selective action upon the ventricles of the heart is demonstrated in acute and chronic cardiac dilatation, a condition, by the way, encountered much earlier in life than is usually recognized. Here the great distress accompanying the cardiac and pulmonary turgescence is very promptly controlled, and, in the acute form, permanently, but in the chronic, requiring constant use. It is these cases where the large doses advocated can be used for years with the best results.

Those conditions attendant upon senility, such as fatty degeneration of the heart, cerebral cortical degeneration, and especially those functional deficiencies that almost force a diagnosis of primary softening, are benefitted to a degree truly wonderful. One condition is especially referred to. It is the passive hyperemia of the cerebrum in which apoplexy frequently threatens, and where there have even been vertiginous paroxysms associated with confusion of intellection, disturbances of speech and local palsies of transient type, yet sufficiently pronounced to convince one that small ruptures have occurred. The careful but bold use of digitine will dissipate these symptoms with the certainty with which quinine controls malaria! A large number of cases in which, years ago, these phenomena were so marked that the early advent of apoplexy was legitimately anticipated, enjoy to this day that immunity which affords the basis of the above statement. It means not only that the immediate mechanical dangers which threatened were promptly overcome, but that, by the continued exhibition of the drug, a restoration to the normal condition of structure was secured. A study of its action in these cases forces the conclusion that not only is the vaso-motor centre directly and promptly acted upon, but also the vaso-constrictors.

The restoration to functional equilibrium, so frequently resulting from the careful and prolonged use of digitine, argues strongly that it powerfully influences cellular metabolism. In

two instances of public men who were disabled from what may be termed premature senility, limited, however, to the pulmonic circulation, and, of course, functional dilatation of the heart, if you will permit the expression, I desire to state that after several months of the uninterrupted use of the half-grain doses of digitine, the nutritional results secured rendered the continuance of treatment superfluous. One of these gentlemen now discharges the duties of two professional chairs, is a voluminous author and engaged in the greatest and most active work of his life, unincumbered with symptoms that three years ago rendered him useless.

The power of digitine to influence capillary tone is of signal efficiency in certain types of eczema so frequently met in old age, and in the edema of post-hemiplegic contracture.

Sufficient has been briefly alluded to, to allow the following conclusions: Digitine is a powerful and thoroughly reliable therapeutic agent; to secure results it is necessary to exhibit it in doses of from $\frac{1}{10}$ to $\frac{1}{2}$ grain several times daily; that it possesses the minimum of that property which results in gastric irritation; that it acts upon the vaso-motor centre and vaso-constrictors very powerfully, and either directly or indirectly restores nutrition by stimulating metabolic activity of cell structure; that it exerts a very pronounced stimulant action upon the intra-cardiac ganglia; that cumulative action does not occur, and that a more reliable remedy than digitine does not exist.

PHONO- AND PNEUMO-MASSAGE IN SUPPURATIVE DISEASES OF THE EAR.

By LOUIS J. LAUTENBACH, A. M., M. D., Ph. D.,

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The subject of suppurative disease of the middle-ear has of late years called forth an increasing amount of attention. The recognition of the frequency of cases of mastoid disease, and of meningeal and cerebral disorders resulting from acute or from neglected chronic suppuration of the middle-ear, has given an increased importance to the subject, and stimulated to more thorough and persistent treatment. In cases of local severe head pains and neuralgias, obscure in their nature, and in cerebral affections, especially basal disorders of unknown origin, the ear is now included as a subject for investigation, cerebral abscesses being frequently the result of old neglected suppuration.

In cases of middle-ear suppuration there are three aspects from which the subject of treatment must be studied. The first of these is the prevention of the extension of the inflammation; the second, which is to some extent included in the first, is the subjection of the inflammatory condition and the healing of the diseased parts, while at the same time stopping the ear discharges; the third, is to save the hearing or to restore it when impaired.

I hope in this paper to so present the subject of oto-massage as applied to suppuration cases, that you will be convinced that in connection with our older and well-tried remedies it is a valuable aid in the treatment. It is not a cure-all, not a specific, but there is a sphere which it more thoroughly fills than any other remedy or remedies.

In all cases of suppuration, acute or chronic, it is necessary to cleanse the ear as thoroughly as possible of all retained secretions. There is no doubt that if the middle-ear cavity were kept constantly clear, the inflammatory condition would often subside very quickly. Unfortunately this is rarely accomplished, the middle-ear usually fills with the discharges, which lie there and undergo fermentation, the irritant, acrid products of which occasion an increased virulence of the inflammation, causing new foci of ulceration; in addition, the discharges frequently by pressure occasion infiltration and distortion of the ear structures and surrounding parts. Because of this filling of the ears with discharges, we have increased inflammatory action with a distortion of the ossicular connections, followed by ulcerations, granulations, formation of fibrous bands and abnormal adhesions, and later, by necroses and sclerotic changes. The ossicles become abnormally attached to the walls of the middle-ear cavity, or to each other, the membrana tympani becomes adherent to the promontory or other parts, the perforation often enlarging; the stapes is driven into the oval window; increased pressure is brought to bear upon the internal ear structures; the Eustachian tube undergoes exudative, and later, cicatricial changes.

Wet cleansing serves to wash out most of these discharges; but allows some, diluted by the residual liquid, to remain. This diluted discharge is probably more irritating than the original, and excites increased secretion and inflammatory action. Dry cleansing, as usually pursued, can never remove all the suppuration, as the middle-ear cavity cannot be thoroughly reached in this manner.

To remove these discharges I use my pneumo-massage instruments in connection with wet or dry cleansing. I first treat the ear according to the present methods, and when I consider it fairly clean I use an exhaust apparatus with a pressure of from two ounces to four pounds per square inch for from three to ten minutes, employing about 300 exhausts per minute. Then I again thoroughly cleanse the ear with cotton, and if I am at all suspicious of there being more suppuration present, I again apply the exhaust pump. After thus cleans-

ing the ear I use drying and stimulating preparations in the usual manner. Often, in simple cases, after cleansing the ear, I lightly plug with cotton, using no other treatment.

By this massage method I succeed in reducing infiltration and inflammation. Often, even in cases of acute suppuration, with severe pain, I employ it, and by its means relieving the pressure of the discharges, cause a rapid disappearance of the pain, the inflammation subsiding, the surrounding swollen tissues soon returning to their normal conditions, the discharges cease, the ear often quickly resuming its normal functions.

In addition to this, the massage being used daily, formation of lymph bands and other adhesions is avoided, the drum-head, ossicles and their connections are prevented from becoming fixed and immovable, the hearing being in great part preserved.

Pneumo- or suction-massage thus applied fulfils in part all three of the treatment indications, preventing the extension of the disease, favoring the subsidence of the inflammation, and improving or saving the hearing. It accomplishes these three indications by the complete cleansing occasioned, and, in addition, the last of these by the thorough kneading movements produced in the conducting apparatus, preventing loss of functional activity and relieving pressure on the internal ear. This use of massage in preventing loss of hearing or restoring impaired hearing is an extremely valuable one. Massage for this purpose is to be applied in two ways: pneumo-massage to retain the conducting apparatus in normal activity, or to restore it when interfered with, and phono-massage to stimulate the internal ear when from other pressure or disease its nerve endings are non-responsive.

In no class of chronic ear cases is massage so valuable in improving impaired hearing as in the cases under consideration. The likely explanation being that in most of these cases the changes produced are primarily rather in the nature of a deposition of new material, or increased thickening of the mucous tissues, than that of a destructive, fibrous or sclerotic change. As before said, these cases are accompanied by ankyloses, lymph adhesions, the formation of abnormal bands,

growths and thickenings which may be followed later by ulcerations and necroses, and perhaps by scleroses.

We can by means of suction-massage thoroughly applied (often and sufficiently long) break up these ankyloses, stretch and cause absorption of the bands, break the adhesions, and often reduce the thickenings and growths of the mucous tissues and heal the ulcerations. By bringing about these results we succeed in restoring to the conducting apparatus its normal function. During the process we usually succeed at the same time in relieving the abnormal pressure on the internal ear.

By the use of phono-massage we can, as elsewhere pointed out, stimulate the auditory nerve ends to renewed activity. This stimulation of the nerve can often be demonstrated in a very few minutes. If you take any case of suppurative disease unattended by destruction of the nerve, and subject the case to a phono-massage treatment adapted to it (I find sharp metallic and high whistling sounds the most effective) for from twenty to forty minutes, you will rarely fail in temporarily improving the hearing. I will instance:

Mr. C. M., aged 28 years, who has had suppurative disease of both ears for 12 to 15 years, had a watch hearing of $\frac{1}{4}$ inch. Strong, metallic phono-massage for 40 minutes was followed by an immediate increase in hearing distance to $1\frac{1}{4}$ inches. A second application gave him a hearing distance of over 2 inches.

Often in these cases there is an increase of from two to eight inches. By persistence in the use of the phono-masseur, using it in connection with the pneumo-masseur, I have succeded in often bringing about results which by former methods have seemed to be impossible. I will instance a few cases, commenting on them as I go along:

Miss A. H., aged 25 years, who came March 25, 1895, was treated by an ear specialist of marked ability for 18 months without apparent improvement in hearing. On examination I found her watch hearing in both ears hard contact. By the use of phono-massage once a week for 12 months, it improved in the right ear to 1 inch and in the left ear to 10 inches. In the right ear granulations have several times appeared, and are now interfering with her hearing power.

Mr. E. S., aged 25 years, who came February 3, 1895, with perforation and discharge in left ear, with no watch hearing, has improved to 6 inches in 14 months' time under massage treatment.

Mr. W. S., aged 18 years, came August 4, 1895 ; hearing for both ears hard contact ; very large perforations in both ears with frequent acute exacerbations of the inflammation. He now hears right ear 2½ inches, left ear 1½ inches. Treatment : mixed massage once a week, 40 minutes each time.

Mr. C. H., aged 17 years, came March 17, 1896, with perforation in both ears, profuse suppuration and acute pain, the parts being swollen and infiltrated ; watch hearing, right ear, none, left ear, hard contact. He now hears, right ear, light contact, left ear, 2 inches, under massage treatment. The pain disappeared, there is no discharge in the left ear, and very little in the right ear.

Miss V. H., aged 20 years, who came November 4, 1895, with perforation in both ears, has been treated by an ear specialist for some 20 months without any apparent effect on the hearing. In 6 months of massage treatment her watch hearing has improved from hard contact to right ear, 7 inches, left ear, 6 inches, and she is still improving ; the suppuration has ceased.

Miss O., aged 21 years, came January 22, 1895, with perforation of both ears. I treated her for six months without massage, with little improvement in hearing. Now, after the institution of massage treatment, she hears the watch, right ear, 6 inches, left ear, 8 inches—an improvement from not heard at all in right, and light contact in left ear.

Miss C. M., aged 15 years, came December 1, 1894, for chronic suppurative disease of left ear. There was large perforation and a fair amount of whitish discharge, not very gluey. There was no watch hearing on contact. I treated her ear without massage, and succeeded in about 4 months in stopping the suppuration, but the perforation did not heal. The hearing distance had at this time improved to hard contact hearing for the watch. I then determined to endeavor to restore the hearing by means of massage, using the pneumo, but especially the phonomasseur, neglecting the perforation, hoping it would heal spontaneously. Now, after 10 months of such treatment (one visit per week) she hears the watch at 10 inches, the perforation remaining unhealed, the ear being perfectly dry.

Two years ago on making my initial report before you of the results of of my massage methods, I narrated the case of Mrs. R. W. K., aged 38 years, who came to me several years ago suffering with suppuration caused by scarlet fever during her first year. When she came I informed her that I feared I could not restore her hearing, and, as this was the object of her visit, I refused to treat her. Two years later she came to me again. The ears were still discharging ; the watch was not heard in either ear. After she had been using the massage treatment for some months, not only did the discharge cease, but the hearing improved so

much that she had no conscious difficulty in hearing conversation; the watch being heard 20 inches (20-52) from the ear. The progress of this case was a steady gain in hearing power from the commencement. From the time of my report up to the present time there has been no diminution in hearing power. During the progress of the treatment she heard a thunder-clap for the first time, gradually hearing lower and less marked sounds.

Miss L. H., aged 43 years, came, February 25, 1894, with no watch hearing in either ear; clock not heard on contact; friction cards heard with both ears; right ear discharged for six months, the left for seven years. The treatment has been followed at average intervals of about one week, with the result that her clock hearing in the right ear has increased to 7 inches, in the left to 4 inches, retaining this except when affected by colds.

Miss I. K., aged 10 years, came January 2, 1895, with suppuration of four months' standing, in the right ear, caused by scarlet fever; watch hearing in this ear 3 inches ($\frac{3}{5\,2}$). The usual treatment, continued twice a week for some three months gave her a hearing distance for the watch of 42 inches ($\frac{4\,2}{5\,2}$).

Master T. C. K., aged 7 years, came April 11, 1895, with suppuration in both ears for nine months, occasioned by constant throat colds. His watch hearing has improved from right ear one inch ($\frac{1}{5\,2}$) and left ear light contact, to right ear 48 inches ($\frac{4\,8}{5\,2}$), left ear 40 inches ($\frac{4\,0}{5\,2}$).

Master G. S., aged 14 years of Wayne, Pa., sent by Dr. George M. Wells, came April 15, 1895, with no watch hearing in right ear; left ear, light contact. The suppuration was caused by an attack of grippe two years before. He now hears the watch, right ear 40 inches ($\frac{4\,0}{5\,2}$), left ear 36 inches ($\frac{3\,6}{5\,2}$). This result was obtained after some forty treatments applied at first twice a week, later, once a week, and then every other week, combining the massage with rational ear, throat and general treatment.

Master A. H., of Wayne, aged 15 years, came November 6, 1895, with suppuration of both ears of thirteen and a half year's standing, caused by measles. His watch hearing in the right ear was $\frac{3}{4}$ inches ($\frac{3}{4}_{3\,0}$), left ear 3 inches ($\frac{3}{3\,0}$), and is now, right ear 15 inches ($\frac{1\,5}{3\,0}$), left ear 19 inches ($\frac{1\,9}{3\,0}$). He has been under treatment constantly from his first visit, averaging almost two visits per week. I feel confident that in this case, with persistence, we will succeed in restoring his hearing completely.

Mr. T. P., sent to me by Dr. T. V. Crandall, came November 16, 1895, with a watch hearing for right ear of $1\frac{1}{2}$ inches ($1\frac{1}{2}_{3\,0}$), left ear none. The suppuration has been of some years' standing, and was occasioned by scarlet-fever in early life. By the usual methods, being treated once a week, I have succeeded in improving the watch hearing to, right ear 9

inches ($\frac{9}{30}$), left ear 13 inches ($\frac{13}{30}$). Here also I expect a further marked improvement by persistence with the treatment.

Master H. W., aged $8\frac{1}{2}$ years, came November 21, 1895, with profuse suppuration of both ears occasioned by scarlet-fever when two years old. The watch hearing in the right ear was hard contact, but there was no watch hearing in the left ear; friction cards were heard indistinctly in the left ear. The case has been treated twice a week since the initial visit, with the result that the hearing in the right ear is now $1\frac{1}{2}$ inches ($1\frac{1}{30}$), and the card friction is clear and sharp in the left ear. This improvement has occurred despite the fact that the suppuration continues on both sides. This case has been treated steadily by some three ear specialists of Philadelphia for the three years immediately preceding his visit to me; and each physician, after having full control of the case, arrived at the conclusion that it would be impossible to obtain a favorable result—all agreeing that there would be no improvement in the hearing, yet by massage methods he has improved and promises to improve much more in the future.

Mr. H. B., aged 19 years, came February 1, 1896, with suppuration in right ear caused by scarlet-fever in early life; no watch hearing in the ear. After some ten weekly visits, the hearing had improved to $1\frac{1}{2}$ inches ($1\frac{1}{30}$).

Mrs. G. W. A., of Westminster, Md., aged 39 years, sent by Dr. Edward D. Wells, came April 7, 1896, with slight suppuration of both ears of some six years' standing, during which time the hearing has grown steadily worse. She had a watch hearing for right ear 2 inches ($\frac{2}{30}$), left ear, light contact. After applying my method for five successive days, the watch hearing improved to right ear $3\frac{1}{2}$ inches ($3\frac{1}{30}$), left ear $1\frac{1}{2}$ inches ($1\frac{1}{30}$). The rapidity of the change in a case of such long standing proves that the case will undoubtedly improve considerably more should the treatment be again instituted and then continued.

I have given these cases not as exceptional but as average ones with average results. I no longer tell my patients that as the discharge ceases the hearing will probably grow worse. I no longer find it to be so. I find the hearing almost invariably to improve as the treatment progresses. Of course, under the old method the hearing often did grow worse; no effort being made to prevent the organization of the exuded lymph; there was an entire lack of any treatment employed to overcome the bad effects of the abnormal healing processes; the ossicles became ankylosed and adherent to adjacent structures; the drum-head formed attachments; nothing was done to prevent

the stapes being jammed into the oval window; no steps were taken to relieve the pressure on the internal ear; nor, was it considered necessary in any way to normally stimulate the quiescent auditory nerve endings. In fact, all that was done was to soothe, cleanse and heal the ear with perhaps the occasional use of the Politzer inflation.

My method provides for the relief of all these conditions, and by a rational common-sense treatment endeavors to overcome them all; and I am satisfied that it does so measurably well, as my results to-day are infinitely better than before its introduction—the results both as concerns the cure of the suppuration, the length of time required therefor, as well as in the degree in which I succeed in restoring the hearing, being conclusive proofs in this direction.

My conclusions are briefly as follows: Pneumo-massage aids in the prevention of the extension of inflammation as well as in the subsidence of the inflammatory action through the aid it affords by thoroughly cleansing the middle-ear of all the discharges, thus relieving the excessive tension, preventing infiltration and disintegration of ear structures with consequent extension to the internal ear or mastoid cells, or both.

Pneumo-massage preserves intact the normal sound conducting structures, and restores them when ankylosed or abnormally attached, or when restricted in their movements to a condition more nearly natural than can be attained by any other method.

Pneumo-massage relieves the increased pressure on the internal ear so often observed as the cause of deafness in these cases.

Phono-massage restores, at least in part, to the internal ear structures their normal receptiveness, by occasioning a physiological stimulation of the nerve endings and their connecting parts, which had either from disuse or increased pressure been placed in a dormant or non-responsive condition.

THE SIGNIFICANCE OF MURMURS IN THE DIAGNOSIS OF VALVULAR DISEASE OF THE HEART.

By ALOYSIUS O. J. KELLY, A. M., M. D.,
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An acquaintance with the facts renders patent to the observer the avidity with which many practitioners are prone to regard as pathognomonic a sign or symptom of value though it be, yet far from possessing the dignity and importance which they attach to it. Pathognomonic signs are rare, extremely rare; they almost exist not. A profound acquaintance with the exact relationship existing between pathological processes and signs and symptoms of disease is the *sine qua non* of accurate diagnosis. I know of no circumstances under which a lack of appreciation of this necessity, from ignorance or other causes, is attended by such frequent and needless diagnostic errors, as in the estimation of the significance of murmurs in the diagnosis of valvular disease of the heart. We are often told that a patient with an adventitious sound heard at the apex of his heart or thereabouts has a mitral murmur, and forthwith we are of necessity to believe that he has some disease of his mitral valves, which, on the autopsy table is, but too frequently, found to have "vanished into the thin air."

The study of the exact significance of murmurs in the diagnosis of valvular disease of the heart may not inappropriately be prosecuted by arranging our cardiac cases into three distinct classes: 1. Cases in which the presence of a murmur assists in the diagnosis of some valvular lesion; 2. Cases in which despite the presence of a murmur valvular disease may not be diagnosed; 3. Cases in which valvular disease may be diagnosed without the detection of any murmur whatever. In the present communication these classes can be but

alluded to. Nor can we go fully into the question of the diagnosis of valvular disease of the heart. We can do no more than merely indicate the value of other diagnostic signs, directing our attention at present solely to murmurs.

It is in cases belonging to the first two categories, cases in which we may detect a murmur in the region of the heart, that most mistakes are liable to occur, especially in view of the much greater frequency of these classes of cases. In pursuance whereof, it may therefor be remarked as the actuating motive of this communication, that a murmur alone, that is, without corroborative evidence, is never diagnostic of any valvular disease of the heart. Disease at any orifice of the heart so disarranges the mechanism of a rhythmically acting and perfectly regulated machine as, of necessity, always to lead to consecutive changes, without the detection of which, the diagnosis of such valvular disease is never justified.

The first requisite absolutely essential to the accurate diagnosis of valvular or other disease of the heart is a thorough physical examination of the lungs and pleura. We must first determine whether or not there be present any acute or chronic, local or general disease of the lungs or pleura. For the varying states of health and disease to which the lungs and pleura are subject find an expression to a certain often marked degree in the condition of the heart; which condition is very frequently similar to that which follows in the wake of certain valvular lesions. The truth of this statement is apparent when we consider that the accentuation of the second pulmonic sound, which plays such an important rôle in the diagnosis of certain valvular lesions of the left side of the heart, is also present in cases of pneumonia, as well as in cases of pleural effusion, and the more chronic affections, such as emphysema, etc.

Considering then the question of murmurs, a murmur heard in the region of the heart must be first definitely determined to be of endocardial origin. We must eliminate all question of exocardial genesis, all pericardial, cardio-pulmonary, so-called hemic and venous murmurs. It will be neither appropriate nor opportune to here enter upon this subject in detail. We

recognize then that a murmur heard in the region of the heart may be due to incompetency of the valves or to stenosis of the orifices consequent upon endocarditis or atheroma; to dilatation of the ventricle or relaxation of its walls, inducing a relative insufficiency of the valves; to irregular action of the heart; to roughening of the pericardial surfaces (pericarditis, pleuritis); to aneurism; to alteration in the constituents of the blood, anemia and chlorosis; to murmurs produced within the veins; to various anomalous conditions of the chordæ tendineæ; and to various congenital defects of the heart itself or great vessels.

We will consider somewhat in detail the most commonly occurring murmurs, without regard to the accuracy of the diagnosis of the murmur as such. I wish not only to refer to the positive signs of valvular disease but I desire also to direct some attention to the value of what may be termed the negative signs of the individual lesions. And firstly the systolic murmur, with its area of maximum intensity in the region of the apex beat, usually designated the mitral systolic murmur, and which, when detected, is usually considered sufficient evidence to consign the patient to the inconveniences and consequences of a mitral insufficiency, and which, when absent, usually presupposes the non-existence of such lesion. And yet, how frequently is the hemic murmur of chlorosis and the other anemias heard loudest at the apex and during the systole? And how many pericardial, and cardio-pulmonary or pleuro-pericardial murmurs have their point of maximum intensity at, or are heard only in the same region, and are audible, or thought to be audible, only during systole? And, on the other hand, how frequently is the murmur of mitral insufficiency not heard with maximum intensity in the region of the apex, but upwards towards the pulmonary cartilage, where we usually hear loudest the so-called hemic, or accidental, or functional murmurs? The importance of a correct diagnosis is further emphasized by the fact of the frequent occurrence of these accidental murmurs in apparently healthy individuals. They are usually demonstrable in most delicate women, especially in those who have thin chest walls, and are of very frequent occurrence in young children, more particularly in those who

for any reason are somewhat below par. They are especially audible in the the recumbent posture. This is also frequently true of the organic murmur of mitral incompetency, which may even be entirely absent at certain times, as during intercurrent diseases, and in conditions of weakness and exhaustion. The diagnosis of a mitral insufficiency is justified only, when, in addition to a mitral systolic murmur, there are present the confirmatory evidences of the consecutive changes which such a lesion necessarily induces in the heart. We must determine the characters of the heart sounds at the apex and at the base (accentuation or not), the character of the apex beat, the area of the cardiac dullness, the condition of the precordium, the presence or absence of a thrill, etc.

Illustrating the care essential in making a correct diagnosis I may cite the case of a young woman suffering from an attack, which was the second, of acute articular rheumatism, when I first saw her.

In conjunction with other physicians I saw her almost daily for a couple of months, and carefully watched the sequence of events. During the attack of rheumatism her heart remained absolutely unaffected. As defervescence was established and convalescence begun she became very anemic. There developed a blowing systolic murmur heard loudly at the apex, but apparently with its point of maximum intensity up towards the pulmonary cartilage. There occurred some slight increase in the transverse area of the cardiac dullness. Otherwise physical examination of the heart revealed nothing abnormal. In this instance the natural inference most probable to many would have been the development of a mitral insufficiency due to endocarditis, attendant upon an attack of acute articular rheumatism. While there existed many reasons in support of such a diagnosis, weighty elements in confirmation were wanting, and there existed many negations. For the supposition of a mitral insufficiency there were the history of rheumatism, a systolic murmur heard loudest in a region where the systolic murmur of mitral insufficiency is sometimes located, and some increase in the transverse area of the cardiac dullness. But the patient had a marked anemia, the murmur was of the character and located where the hemic murmurs are most frequently heard, there was no accentuation of the second pulmonic sound, the first sound at the apex was preserved, and the slight increase in the transverse area of the cardiac dullness could readily be explained upon the assumption of a slight dilatation of the heart dependent upon the anemia. While the case might well be thought doubtful, this latter

supposition was indulged in, and subsequent events proved its justification. As the anemia improved so also did the physical signs of the heart; the murmur disappeared, and the area of cardiac dullness once more assumed its normal limitations. The patient was seen again some months after she left the hospital, and there existed no physical signs or indications whatever of cardiac disease; the heart sounds were normal, there was no murmur, no accentuation of the pulmonic second sound, no increase in the area of cardiac dullness, no change in the precordium, no alteration in the pulse; her anemia was gone, so also were all her suspicious signs of valvular disease. The case was not one of relative mitral insufficiency, as whether relative or due to endocarditis, the physical signs of a valvular lesion, upon which the diagnosis is to be based, are the same.

A stenosis of the mitral orifice is usually diagnosed, and only then, when there is detected a diastolic or a presystolic murmur with its point of maximum intensity at the apex. This diastolic or presystolic murmur is usually said to be strictly localized to the apex, to indicate the fallacy of which statement I need but refer to the very old testimony of Bamberger (Lehrbuch der Krankheiten des Herzens, 1857, S. 248), or to the more recent communication of J. P. Crozer Griffith (*American Journal of Medical Sciences*, Vol. CX, p. 271, 1895). The latter diagrammatically illustrates the very wide area of distribution of many presystolic and diastolic murmurs of mitral stenosis.

Of all cardiac murmurs the presystolic at the apex is usually said to be the one pathognomonic, being a positive indication of mitral stenosis. This statement is equally as fallacious as the preceding one, regarding its limitations of distribution. For many years, since Austin Flint first promulgated the statement, we have been accustomed to occasionally hearing a presystolic murmur at the apex in cases of aortic incompetency, and such a murmur has usually gone by his name. More recently Fisher (*Lancet*, March 9, 1895), and Phear (*Lancet*, September 21, 1895) have contributed to the literature of the subject, the latter collecting forty-eight cases of presystolic apex murmur without mitral stenosis. In seventeen of these cases the aortic valves were incompetent; in twenty, the pericardium was adherent; and in thirteen there was present either a pre-

systolic or diastolic thrill. It has long been known that there may occur at the apex a presystolic or a diastolic thrill without any murmur being audible, the thrill in such cases being considered pathognomonic of the mitral stenosis. But, from the evidence adduced by Phaer, this can no longer be considered consistent with the facts. A presystolic murmur at the apex may, therefore, not only be due to a mitral stenosis, but may likewise owe its origin to an aortic incompetency or to an adherent pericardium. It has also been suggested that in certain rare instances, either one of two conditions, shortening of the chordæ tendineæ, or dilatation of the left ventricle, with in either case the necessary addition of a sufficiently forcible contraction of the left auricle may serve to produce the murmur. The condition of the chordæ tendineæ was mentioned in nine of the cases referred to by Phaer. In three they were healthy; in two shortened; in one shortened and thickened; in three thickened but not shortened. In one of the last mentioned cases there was also an adherent pericardium. It has also been suggested that in those rarer instances of presystolic apex murmur attendant upon aortic incompetency or adherent pericardium, the innervation of the heart may be in some obscure way affected, giving rise to the production of the murmur.

And, further, a mitral stenosis is frequently to be diagnosticated without the detection of any murmur whatever. One can at least think of the possibility of the presence of a mitral stenosis when a well-marked hypertrophy of the right side of the heart and accentuation of the second pulmonic sound cannot be accounted for by any existing conditions of the lungs, and when, for the accompanying weakness and smallness of the pulse, no plausible explanation can be found. The presystolic murmur of mitral stenosis may be absent for months at a time, and is especially liable to be found wanting towards the close of life, when cardiac weakness begins to manifest itself. Requisite for the production of the murmur is a certain strength of the left auricular contraction, which, with the increasing exhaustion towards the end of life, necessarily suffers. The unwary are thus often surprised to find post-mortem a mitral stenosis unsuspected during life.

Again, there is another class of cases in which we can detect no presystolic or diastolic murmur, and in which the diagnosis of mitral stenosis can be made with absolute certainty. I refer to cases in which there is a reduplication of the second sound heard at the apex alone, or at least at the apex with greatest intensity. Reduplication, or splitting of the second sound at the base of the heart, is devoid of much diagnostic significance. But a reduplication of the second sound heard only at the apex, there being no such reduplication audible at the base, is diagnostic of mitral stenosis. This so-called reduplication of the second sound, which, in fact, occurs in quite a number of the cases of mitral stenosis, is in reality not a reduplication or splitting of the normal second sound of the heart, but is the addition of a distinct and independently produced third sound, an abnormal diastolic or presystolic tone. It is produced by the auricular contraction causing a sudden and violent presystolic impact of the blood against the pathologically tense and non-retracting mitral valves. Unless the valves have become too stiff to permit of the production of any sound at all, this abnornal sound is frequently very readily heard if it be not obscured by a co-existing or replacing murmur. This triple rhythm of the cardiac sounds may often be the only auscultatory sign of mitral stenosis. It is most frequently observed during quiet cardiac action, to be usually replaced, during excited action, by the normal double rhythm of the cardiac sounds, and a diastolic or presystolic murmur.

Particularly are we to exercise care in the diagnosis of single lesions at the mitral orifice; they are of rather infrequent occurrence. Stenosis of the mitral orifice it almost always accompanied by incompetency of the mitral valves, while the majority of cases of mitral insufficiency are attended by some degree of stenosis of the orifice. The valvular incompetency is usually the antecedent affection, the stenosis developing subsequently. We must be careful not to mistake a stenosis for an insufficiency, or a double lesion for a single one. Frequently the stenotic murmur failing, we have present only the systolic murmur of the co-existing mitral insufficiency. We must have recourse to the other physical signs in addition to the murmur. The

preponderating lesion can be diagnosticated by attention to the physical signs of the individual lesion, which, in the single case, may be more in evidence.

The murmurs produced at the aortic orifice, and usually heard with maximum intensity at or near the aortic cartilage, are the aortic systolic and aortic diastolic murmurs; and I know of no signs, in the proper interpretation of which more errors are made than in correlating these two murmurs to the pathological conditions which give rise to them. The murmur of aortic incompetency is diastolic in time, in pursuance whereof to many all diastolic murmurs heard with maximum intensity in the region of the aortic cartilage of necessity indicate, and the murmur alone is sufficient to diagnosticate an aortic insufficiency. In addition to giving rise to an aortic diastolic murmur an aortic incompetency will surely be productive of other evidences of deranged cardiac mechanism, without the demonstration of which the diagnosis of an aortic insufficiency is never justifiable. We must have recourse to the other signs of the valvular lesion, and consider the character of the heart sounds at the apex and at the base, determine the area of cardiac dullness, the characteristics of the apex beat, the presence or absence of a thrill, the condition of the precordium, the pulse, the results of auscultation of the arteries, etc.

It may be ascertained that an aortic diastolic murmur will so surely be accompanied by other evidences of aortic incompetency as, for diagnostic purposes, to render almost needless such careful examination; in other words, that an aortic diastolic murmur is pathognomonic of aortic insufficiency. And I will even grant that in the majority of cases this may be true, but it is not invariably so. The hemic murmur at the base of the heart being systolic in time, will, of course, not be mistaken for that of aortic insufficiency. But there are other signs attendant upon anemia which may lead to confusion. I refer to the bruit in the veins. This so-called "bruit de diable" has long been known to be audible in the jugular veins, and can occasionally be heard in other veins. It is a continuous murmur, and as such it is usually appreciated. It suffers

systolic and diastolic augmentations, although the latter, because of the much easier flow of the blood during that time of the cardiac cycle, is much the more intense. This murmur is not only audible in the veins of the neck, but can very frequently be heard along the right border of the sternum as far down as the second or third rib, exceptionally still lower. When heard, however, in this region, that is at the base of the heart, it usually appears simply as a diastolic murmur. Under these circumstances, attaching itself so to speak to the second sound of the heart, it may readily be mistaken for the diastolic murmur of aortic insufficiency. Exceptionally this murmur may be heard with great intensity low down the sternum, in which case it is probably transmitted from the inferior vena cava. This venous murmur is occasionally present in apparently healthy individuals, but is most frequently observed in those the subjects of anemia, especially chlorosis. It is of very frequent occurrence in children, as has been especially pointed out lately by Sainsbury (*Lancet*, February 29, 1896), who found it present in thirty-four of one hundred children whom he examined. These children, while possibly somewhat below par, were none the subject of any disease. The diagnosis of anemia, the cessation or diminution in intensity of the murmur upon deep pressure on the jugular (light pressure may serve to increase it), and the absence of corroborative evidences of aortic insufficiency serve to protect from diagnostic errors. Ausculting from the base of the heart towards the jugular vein one can satisfy oneself that this diastolic murmur gradually merges into a rhythmic diastolic augmentation of the continuous venous hum of the jugular. Otherwise the occurrence of an inorganic disastolic murmur is practically unknown, and the detection of such a murmur argues with the greatest probability in favor of an organic lesion.

But again an aortic incompetency very frequently exists without there being present any diastolic murmur capable of detection. Especially is this true of the greater degrees of incompetency. Under such circumstances we have recourse to the other signs of aortic insufficiency, and the character of the

pulse is such a positive indication of the condition as to often almost permit us to make the diagnosis from it alone. And it is precisely in such cases that errors are liable to occur. Between eighty and ninety per cent. of all cases of aortic incompetency are accompanied by an aortic systolic murmur without there being present any stenosis of the orifice whatever. In other words a systolic murmur at the aortic cartilage does not indicate stenosis of the aortic orifice; such a condition being among the rarest of cardiac valvular lesions. But frequently in aortic incompetency the only murmur audible is an aortic systolic one, the second sound being absent, or almost so, or, it may be feebly preserved. Under such circumstances, there being present the other physical signs of an aortic sufficiency, such an aortic systolic murmur may be made use of to supplement the diagnosis of an aortic incompetency. The genesis of this aortic systolic murmur, there being absolutely no stenosis of the aortic orifice present, has been explained upon the supposition of: 1. A great increase in the rapidity of the expulsion of an excessive quantity of blood, and a consequent excessive distension of the aorta during the ventricular systole, whereby ensue irregular movements of the walls of the aorta, which are causative of the murmur; 2. A sudden and violent meeting of the systolic stream of blood with the regurgitating stream; 3. Roughness and irregularities of the aortic valves, dependent upon endocarditis or atheroma, and against which the blood impinges during systole.

An aortic stenosis is, however, characterized by the occurrence of a systolic murmur transmitted into the carotids, but with its point of maximum intensity at the aortic cartilage. The murmur alone, however, is not diagnostic of the lesion. I do not need to again review in detail the various conditions to which a systolic murmur at the base of the heart may owe its origin. The justification of the diagnosis of a stenosis of the aortic orifice is found in the demonstration of the physical signs of the physical conditions dependent upon the lesion. And particularly must I mention the "pulsus tardus." We also take into consideration the other physical evidences of the lesion, not forgetting the importance of negative signs, or signs

indicative of another lesion. We must bear in mind that we very frequently also hear an aortic diastolic murmur dependent upon an aortic insufficiency, with which, in fact, the majority of cases of aortic stenosis are complicated.

Of not less importance, in considering lesions at the aortic orifice, is the determining the presence or absence of the aortic aneurism, which, if present, may give rise to a systolic, a diastolic, or a double murmur. But the signs and symptoms pertaining to aneurism on the one hand, and to aortic disease on the other, guard against error. Of course aortic disease and an aneurism may co-exist.

While, by reason of their much less frequency of occurrence, valvular lesions of the right side of the heart are less liable to lead to diagnostic errors than are those of the left, still, as they do occur, it behooves us to make no mistakes. Clinically the most important right-sided lesion is a tricuspid insufficiency, which is usually relative, and secondary to some disease of the left side of the heart, most frequently at the mitral orifice. And, once again, a murmur, systolic, at the lower end of the sternum, is not diagnostic of the condition. It is usually difficult to distinguish this murmur from one produced at the mitral orifice, and which frequently accompanies it. We have more regard for the area of cardiac dullness, the non-accentuation of the previously accentuated second pulmonic sound, the result of an examination of the veins, etc. The veins show pulsations presystolic-systolic in time, especially affecting the jugular, though they may occur in other veins and are frequently demonstrable in the liver. These venous phenomena have elsewhere been the subject of a more detailed dissertation (*New York Medical Journal*, January 18 and 25, 1896).

We bring similar aids to assist us in the diagnosis of that much rarer and usually congenital lesion at the tricuspid orifice—stenosis. This lesion is, however, comparatively speaking, of such rarity, and almost never exists without an accompanying insufficiency of the tricuspid valves, that its diagnosis is a matter of little practical moment. A diastolic or presystolic murmur would be of value in the diagnosis, as also would an examination of the veins, etc.

The lesions at the pulmonary orifice, almost without exception congenital, present physical signs the counterpart of those which accompany similar lesions at the aortic orifice. Stenosis of the pulmonary opening is of more frequent occurrence than incompetency of the pulmonary valves. It is, however, hoped that at this day no one will mistake the accidental hemic murmur, or the murmur of mitral insufficiency at times heard at the pulmonary cartilage, for an indication of pulmonary stenosis.

Of necessity, because of the complexity of the conditions, it is in cases of combined valvular lesions that more difficulty will be experienced in making the correct diagnosis. But in such cases, similarly as in cases of single lesions, the diagnosis is to be based upon the demonstration of the physical signs of the pathologically changed physical condition of the heart. Of those signs the murmur, or murmurs present, constitute a part. The detection of a murmur, and the localization of it to its seat of origin, are essential elements in the diagnosis; but alone they do not justify the diagnosis. It is true that in very few conditions, save those of valvular lesions, do we meet with multiple murmurs, but it is equally true that conditions which give rise to the production of single exocardial murmurs may exist in combination. The systolic hemic murmur of anemia at the base and the diastolic murmur transmitted from the veins may be confused with the murmurs of double aortic disease. Disease of the mitral or aortic valves may co-exist with pericarditis. In estimating the probability of multiple lesions we must always take into consideration the preponderance of signs suggestive of individual lesions, as the signs of one lesion are necessarily modified by the development or presence of another. Illustrative thereof I may cite the case of a young man aged about twenty-eight years:

He had a bulging precordium, a heaving cardiac impulse, a diffuse apex beat with maximum intensity in the sixth interspace one inch outside of the mammillary line, a presystolic thrill at the apex, great increase in the area of the cardiac dullness transversely (to the right and left), and in the direction of the long axis of the heart. On auscultation at the apex, in addition to a fairly well-preserved rather valvular-like first sound, there was a systolic murmur, and a reduplication of the second sound.

At the aortic cartilage there was a systolic murmur quite different in character from that heard at the apex; the second pulmonic sound was accentuated, but at the base there was no reduplication of the second sound. The pulse while not excessive in volume was distinctly the *pulsus celer et altus*, the Corrigan pulse. The diagnosisis was made of mitral insufficiency and stenosis and aortic insufficiency. The area of cardiac dullness indicated hypertrophy and dilatation of both sides of the heart, aortic and mitral disease. The mitral insufficiency was further indicated by the systolic murmur, the mitral stenosis by the valvular rather accentuated first sound at the apex (the other lesions should have diminished its intensity), the reduplicated second sound at the apex, and the presystolic thrill; the presence of both lesions being further confirmed by the accentuated second pulmonic sound. The aortic incompetency was indicated by the area of cardiac dullness, the character of the apex beat, and the Corrigan pulse, somewhat modified in character by the concomitant mitral disease. The systolic murmur at the aortic cartilage indicated simply disease at the aortic orifice, and not stenosis, as there was no corroborative evidence of such a lesion. The autopsy confirmed the diagnosis.

Multiplication of instances is useless.

As we are at present dealing not so much with the diagnosis of valvular lesions as with the significance of murmurs in their diagnosis, we cannot consider more in detail these interesting conditions, nor can we take up at all the study of various anomalous states inducing murmurs, such as patulous foramen ovale, defect of the interventricular septum, persistence of the ductus arteriosus, or various anomalous and pathological conditions of the chordæ tendineæ, or intraventricular bands. These latter may sometimes produce systolic murmurs, simulating mitral incompetency.

It will be noticed that I have not qualified the murmurs, except by the time of their occurrence. It is not the character of a murmur, nor its area of distribution or propagation, nor its direction of transmission, that determines its value in the diagnosis of valvular disease of the heart. All of these are subordinate to the time of its occurrence and the site of its production.

There is a certain analogy existing between the significance of murmurs in the diagnosis of valvular disease of the heart and the detection of albumin in the urine in the diagnosis of nephritis. As murmurs are usually present in cases of cardiac

valvular disease so also is albumin present in the urine in the event of nephritis, but neither is pathognomonic of the condition which they attend—they both require confirmatory evidence. The analogy can be carried still further. As some cases of valvular disease may be diagnosticated without the detection of a murmur, so may we also diagnosticate nephritis in certain rather unusual instances when we fail to detect any albumin in the urine. In some interstitial cirrhotic conditions of the kidney the specific gravity, the daily quantity of the urine, casts, etc., and the consecutive changes in the heart and circulatory apparatus, are sufficient evidence upon which to base the diagnosis of nephritis, although albumin be absent from the urine.

I have attempted, while endeavoring not to underestimate the value of murmurs in the diagnosis of valvular disease of the heart, to suggest that they are often overestimated, and to point out that they are never of pathognomonic significance. I have endeavored to draw more attention than is usually accorded to the other and important physical signs of valvular disease of the heart. It is the other physical evidences of the necessary changes consecutive to the valvular defect that form the justification of the diagnosis. The murmur is but one element in the diagnosis, and I would almost say the least important.

THE ABUSE OF DIGITALIS.

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Digitalis is one of the most abused drugs of the materia medica. It appears that in the minds of a large number of the medical profession, the pathological range of its application has no limitations. There is a very general want of agreement as to the conditions in which it is applicable as well as to the amount that should be considered a proper dose. Notwithstanding accepted theories and well established facts, which should control its exhibition, digitalis has been introduced to every malady in the catalogue of diseases, and is consequently made the subject of unwarrantable criticism and ever increasing abuse.

There is no medicine that requires so much skill in its administration as digitalis, and no other has the boundaries of its utility more precisely defined. However, it is fair to claim that fifty per cent of the digitalis prescribed is not in accordance with the accepted theories and probably not more than one-fourth of the cases subjected to its influences are treated in harmony with strictly scientific methods. It is erroneously assumed by some that the special effects of digitalis—like those of some other drugs—are arithmetically augmented in every direction in proportion to the amount administered.

The small dose that will secure arterial tension is substituted by the larger dose that will diminish it. Under similar circumstances the small amounts that fail to produce diuresis are alternated with the more liberal doses which enhance the diuretic action. The small doses that slow the heart's move-

ments and the large doses which accelerate them, are exhibited in the same case. To the observing one it is extremely rare to find a case in which large and often repeated doses of the tincture are admissible. The conditions that indicate the utility of large doses are usually more amenable to the infusion.

Digitalis is too often casually regarded as a cure for "heart disease" rather than a remedy to be employed in a pathological condition that may uprise in the course of heart maladies. In consequence of this vague notion of the drug, it is employed from the mildest manifestations of nervous palpitation to the severest cardiac lesion. The variation being in the increased dosage and from one form of the drug to another. Now the tincture is prescribed, again the infusion, and anon the powdered leaves or the alkaloids, agreeable to the caprice of the prescriber, and regardless of the stage of the malady, the conditions or the nature of the case. It is, indeed, rare to find the application of a certain form of the drug to the special condition to which it is most perfectly adapted in a remedial sense. The tincture which should be employed for its tonic effect upon the heart is often substituted by the infusion which should be employed in conditions where diuresis is desirable. If the effects of both forms are needful to the relief of the conditions, a combination of the tincture with the infusion is rational and most commendable. However, the tincture is almost invariably prescribed by some and the infusion is equally popular with others. Some will maintain that the powdered leaves contain all the virtues and, therefore, should always be employed. The objection to the use of the leaves is that they are not readily assimilated, and consequently the effects are postponed and some are lost.

Because it is claimed that in digitalis we have a drug that increases the force of the heart and contracts the vessels of the periphery—except those of the kidneys—it is employed indiscriminately as an ideal diuretic in Bright's disease, notwithstanding the contraindications observable in capillary tension and cordy pulse. Such irrational therapeutics can result in naught but harm.

As to the period of time digitalis shall be continued there is a great diversity of opinion. It is often forgotten that although its effects are slow in their on-coming, they are also very deliberate in their leave-taking, and it is possible to demonstrate their presence after a period of one week or even a fortnight has elapsed after discontinuing the use of the drug. It seems almost foolhardy to use it in chronic nephritis when it is accompanied with high peripheral blood pressure—as it usually is—unless preceded by a short course of nitro-glycerine to relieve the peripheral tension.

The busy practitioner too often forgets that digitalis, in moderate doses, stimulates the musculo-motor portion of the heart and its contained ganglia, increases the activity of the inhibitory apparatus, and, possibly, causes contraction of the arterioles by an action on the vaso-motor centres in the cord. A fact that is not only forgotten but frequently ignored, is that in normal conditions of the heart muscle, there is want of cardiac stability, and it has the capacity to adjust itself to the demands made upon it. In those whose vocations force them into the extremes of bodily exertion, the heart becomes muscular in proportion to the demands.

In response to temporary or protracted influences that perturb the heart and induce over-exercise without diminution of tonicity of the myocardium—as in functional or reflex disorders—the same result obtains. Digitalis is often administered under these circumstances to steady or quiet the cardiac tumult. In my humble opinion this is a flagrant abuse of a good medicine and an unpardonable sin against the heart. It is but an added goad to an already belabored organ. Moreover, if the stomach, from whence the perturbating impulses often proceed is already irritated, the presence of digitalis will augment the difficulties in geometric ratio by increasing nausea, heightening the cephalalgia and other symptoms of gastric distress. Cardiac arythmia of myopathic origin, or reflex, toxic or nervous in its nature, cannot present a reasonable cause for employing digitalis. If it be exhibited in palpitation due to neurosal conditions, there will be a possibility of converting the curable disorder into an incurable malady.

One of the most universal abuses of digitalis is the habit of prescribing it for a patient without advising him to abstain from exercise while under its influence. There are very few physicians who have not been disappointed by its results from the counteracting influence of exercise. All patients taking digitalis should live in perfect physical and mental quietude, as there is danger of adding to the perils of the diseased conditions, demanding its use, by omitting this precaution.

In congenital malformation of the heart, the prospective long continuance or frequent repetition of the drug, and the chronic protracted influence it must exert, should deter the thoughtful medical man from prescribing it. It will ultimately cause myocardial weariness and want of vigor.

In mitral regurgitation there is a time when the administration of digitalis achieves its greatest clinical good. The occasions for its good action are often permitted to pass by on the one hand, and upon the other, the drug is administered so prematurely that its most effective opportunities are lost. It must be remembered that in mitral regurgitation the two chambers of the heart are practically one, and increased vigor of the ventricle augments its suction power during diastole as well as its propulsive energy in systole. Through this dual service the engorged pulmonary circulation is unburdened and the anemia in front is also relieved. This is the only condition in which it can secure such results.

Digitalis seldom becomes the sovereign remedy of derangement of the compensation in mitral stenosis it should, either because of undue haste in prescribing it, or on account of tardiness in its employment. In aortic regurgitation it is sometimes employed in a thoughtless or careless manner. It is a dangerous medicine and often harmful in this valvular malady. If the diastole is increased and prolonged, the period of regurgitation and its force are augmented and the difficulties multiply.

The only excuse for prescribing it in aortic stenosis is to give vigor to the myocardium when the tendency to dilatation is announced. If it slows the action of the heart notably it may add to the valvular asystole a digitalis asystole or occasion tetanic contraction.

It is deplorable to see a well informed physician employing it in conditions of compensation. Many a case of benign hypertrophy has thus been goaded into myocardial weariness and weakness that disabled it from keeping up its work. In the absence of dropsy in all cases where the urine is voided freely, there is little if any call for digitalis. Even under the circumstances of on-coming myocardial weakness and dropsy, the best results are lost by failing to aid the action of the drug by diminishing the work of the heart, and by utilizing all the means for relieving the limitations placed upon the circulatory apparatus. This may be accomplished by purgatives, paracentisis, puncture of edematous limbs, and at times by local or general blood-letting.

To use digitalis in all forms or conditions of heart disease is an abuse of one of our best remedies, that only differs in degree from the disposition that appears among some of the profession to make of it a cure-all.

A CLINICAL STUDY OF THE CORRELATION BETWEEN THE IRIS REFLEX AND THE PATELLAR TENDON REFLEX.

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If it be suggested that our topic is one of little practical import, we can only plead our long continued interest in the associated anomalous behavior of two reflexes so far removed anatomically; and if it be further remarked that this paper is a purely hypothetic one, we would rejoin that with the means at present at command, it is the only method of approaching the subject.

In considering the correlation of these two reflexes, we shall study them mainly as seen in tabes dorsalis, feeling that if the hypothesis offered is acceptable for that disease, it will not be difficult to apply it to the explanation of their concidence in allied cerebro-spinal disorders. That there is a certain relation between the behavior of the iridic and the patellar reflexes is one of the best demonstrated of clinical facts. Oliver[1] in studying this relation among the insane at the State Hospital at Norristown, found it quite intimate, as seen in the corresponding exaggeration or diminution of the two reflexes, according as they were observed in the earlier or later stages of the disorder.

[1] 7th Anuual Report of the Ophthalmic Dept. of the State Hospital for the Insane at Norristown, Pa.

We quote from him, observation VIII: "In quite a number of cases where there is marked inequality of the pupils with more or less want of reaction of the irides to light stimulus, the patellar reflex was found the more diminished on the same side as was found the larger pupil." As to the frequency of the relation he says nothing.

Marina[2] in his recent admirable treatise on the ocular palsies, tabulates a great number cerebro-spinal disorders exhibiting pupillary anomalies, from which he calculates the frequency of the reflex-iris-paralysis[3] in syphilis at 48 per cent, in progressive paralysis at 50 per cent, and in tabes at 80 per cent. Hirt[4], working at the subject from the other side, is convinced that absence of the knee jerk is observed in by far the greater number of tabics.

Up to the present time, however, no one has estimated how often the loss of these two reflexes occurs together. Addressing his observations to this point, one of the writers of this paper (Dr. Wilmarth), made careful inquiry into 28 cases presenting absence of either the iridic or patellar reflex or both, of which number of cases one-half were specific, subjectively or objectively, and the other half non-specific. The material for this work was found among the patients at the State Hospital for the Insane at Norristown, Pa. The tabulated results of the foregoing investigation show the following:

Non-specific Class.

Cases showing involvement of patellar reflex only	3 or 23%.
Cases showing involvement of iris reflex only	1 or 7%.
Cases showing involvement of both reflexes	10 or 70%.

Specific Class.

Cases showing involvement of knee reflex only	1 or 7%.
Cases showing involvement of iris reflex only	2 or 16%.
Cases showing involvement of both reflexes	11 or 77%.

In short, among the non-specific cases, there was found joint

[2] Dr. A. Marina: Ueber Multiple Augenmuskel-lahmungen, Wien, 1896.

[3] In this paper that anomaly of the pupillary action known as the Argyll Robertson pupil—in which the pupil does not react to light, but contracts during the act of convergence—will be generally referred to as "reflex-iris-paralysis."

[4] Hirt: Text Book of Nervous Diseases, 1893.

loss of both reflexes in 70 per cent, and among the specific in 77 per cent of cases, from which it would seem to follow that, either some association intimate in character must exist between reflex-iris-paralysis and the loss of the knee-jerk, or that there must be sought some widespread lesion which invades both reflex paths in its progress.

Now what is the true nature of the lesion that brings about this interruption in one of the highest and one of the lowest reflex arches? The lack of any anatomic connection between the reflex centre for the iris and that of the patellar tendon compels us to look elsewhere for an explanation of this pathologic fact. According to all the older writers, and in fact many of the authors of to-day, tabes is viewed as an affection limited to the spinal cord. Their idea was that the nerve degeneration was a primary idiopathic one. It was explained by some as an hereditary transmission; by others as the result of a predisposition toward degeneration, the gift of a preceding generation; and still by others as the operation of a long pent up syphilitic poison that had for years lain dormant in the economy. These theories all had reference to the effect on the spinal cord of these different causative factors, and in so far as they confined the pathology of the disease to the cord, in that far they all fail to explain the vast array of cerebral and peripheral symptoms which the recent literature has added to the picture of tabes.

The influence of vascular disease on nerve change is the line along which later investigators have directed their energies. For instance, Dr. R. T. Williamson[5] in papers originally published in the *Medical Chronicle*, has clearly stated the more recent theories on the relation of the blood supply to disease of the cord. He believes, with Redlich and Obersteiner, that disease of the posterior nerve roots begins where they pass through the meninges to enter the cord, and results from a chronic meningitis and arterio-sclerosis in this region; further, that in tabes, changes in the cord and posterior nerve roots occur first, and are most marked in the lumbar region in a large majority of cases. This is the region most feebly sup-

[5] Quoted from Journal Nervous and Mental Diseases, August, 1895.

plied with blood. Probably the posterior parts of the cord are more poorly furnished than the anterior. Nageotte[6] in studying the pathology of several cases of general paresis, tabes and cerebro-spinal syphilis, with special reference to the character of the lesions found, noted in all cases certain inflammatory changes of a chronic character, and is inclined to think that "the three separate clinical pictures are only the result of the *preponderance of the inflammatory process in certain locations*, the nature of the process being essentially the same." He dismisses the subject as follows: "There exists in tabes, general paralysis and syphilitic myelitis a diffuse inflammatory process which involves the whole cord." This lesion merits the name of *vascular* or *connective*, on account of the tissues it seems to first attack. It is essentially a round cell infiltration of the pia, arachnoid and capillaries of the spinal cord, and has a peculiar predilection for the coats of superficial veins. *Changes in the essential elements of the cord are secondary.* This process appears to be constant.

The same views are reflected by Sachs,[7] Trevelyan[8] and Hirt[9] and others, to the effect that tabes represent a secondary degenerative process in which the entire nervous system takes part. The reason that we are unable in all cases to demonstrate the participation of all the nerves—that in many cases, for example, the cord seems to be the part most affected, while the brain and its nerves appear less injured—lies in the fact that we have been accustomed to examine the cord with the greatest accuracy, while the brain and peripheral nerves were considered only of secondary importance; and secondly, in the fact that many cases are terminated by intercurrent diseases before the degenerative process could develop in all directions. We have quoted these views fully because we hope to show that the disappearance of the iris and the patellar reflex is secondary to vascular change.

[6] Archives de Neurologie, Oct., 1895. Abstracted in American Journal of Medical Sciences, Jan., 1896.

[7] "Brain," Parts LXX and LXXI.

[8] "Brain," Parts LXX and LXXI.

[9] Text Book, p. 624.

If we accept the idea of a primary degeneration of the posterior columns of the cord extending by ascending degeneration to the medulla and fourth ventricle, there to set up iris, and other third nerve palsies, how are we to explain the involvement of the nucleus for the sphincter pupillæ only, to the exclusion of all other nuclei of the third nerve? Can we imagine that so minimal, yes, even almost microscopical, a portion of the grey matter in the floor of the fourth ventricle can be robbed of its functional activity, while all the nuclei about it remain immune? Hardly so.

Let us apply the vascular idea to this phenomenon. Schmeichler[10] observed in many patients with severe pneumonia or typhus (without meningeal symptoms) that light failed to produce pupillary reaction; if the patients recovered, the movements of the pupil following light returned. He further states that in deep sleep, light produces no pupillary response, while in light sleep this is not the case. His explanation is that the irritability of the central nervous system—pathologically in the former, and physiologically in the latter case—is so much lowered that the most delicate of all reflexes, the pupil, has been lost. This is directly in line with our argument. The furnishing of the medulla with a high blood pressure through the union of the two vertebrals to form the basilar artery, and the maintenance of a uniform pressure by it through many small vessels given off at right angles from the main artery, indicates the need of a high degree of nutrition. These little arteries given off by the basilar are all end or terminal arteries. On investigating the causes of ocular vertigo with special reference to the supply of blood to the muscles of the eyes, Mendel[11] found that the nuclei that preside over the movements of the ocular muscles receive their branches from the posterior cerebral artery through fine terminal branches not anastomosing with each other. The result of this arrangement is that the slightest disturbance in the central circulation immediately detracts from the supply of blood to the nuclei of the ocular muscles. Another fact of

[10] Archives of Ophthalmology, Vol. XII, p. 354.

[11] Journal Nervous and Mental Diseases, Sept., 1895.

importance is that the region in the medulla where are located the nuclei for the ciliary muscle and the iris is supplied by a special branch which has no relation with the region in which the other nuclei are found.[12]

May not now a very slight degree of vascular change be enough to destroy the functional activity of the pupillary and ciliary centres? And as the pupillary is the more delicate act, is it not more likely to be first abolished, just as we find in tabes? Be the vascular change what it may, a peri- or an endo-arteritis, it seems from the physiology of these parts that but little change is necessary to completely set aside the pupillary movements.

Similarly, in the lumbar region of the cord, where the blood supply is relatively feeble, the patellar reflex suffers early in tabes for the same reason—alterations in the blood vessels. While not nearly so finely adjusted as the iris reflex, it must not be forgotten that it is the longest reflex arch in the body.

In conclusion, while we realize that it would be unwise to dogmatise in this domain of medicine where so little is positively known, we wish to state our belief that in tabes and its sister disorders, general paresis and cerebro-spinal syphilis, the determining lesion occurs in the blood vessels of the central nervous system, and whether it be a peri- or an endo-arteritis or both, the outcome is the same, namely, a starvation process, which in its turn so obtunds the cerebro-spinal reflex activity as to abolish both the iris and the patellar reflexes; the first so sensitive because of the exceeding delicacy of the structures with which its reflex action deals; the second so sensitive because of the great length of its reflex arch.

[12] Noyes: Text Book, 1890, p. 146.

SIMPLE AND EFFICIENT TREATMENT OF CHRONIC CATARRHAL DEAFNESS.

By B. ALEX. RANDALL, M. A., M. D.,

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The cases of this insidious disease, which brings to its victims steadily increasing deafness, often accompanied by harassing tinnitus and vertigo, have long been regarded as the reproach of aural surgery. It is a pity that every advocate of operative intervention or of some new auxiliary apparatus, especially if it be a "patent ear-drum," is given an eager hearing, if not indeed accepted without a hearing as the long-desired deliverer of multitudes; while the conscientious and cautious otologist is scorned. And this is not merely by the ignorant and credulous laity or some miracle-seeking clergy, but too often by the rank and file of the medical profession. They almost pride themselves on knowing nothing about ear diseases, and seem to consider most of those who do study them to be mere pretenders, more dishonest, if possible, than the arrant charletan. They take the well-weighed and limited claims of the trained otologist as a shameful confession of inability to benefit these sufferers, since he does not boast full powers of cure; and if they should look into a text-book and learn that there are sclerotic cases which can hardly be delayed in their downward course by any recognized treatment, they would leap to the conclusion that such cases are many instead of few, and cite this in justification of their mistrust.

The facts are unsatisfactory enough in truth, although not so bad as often represented. The cases of catarrhal deafness constitute about one-third of the aurist's work; but of these only a small proportion are of the pernicious sclerotic form.

Far too many of those who consult the aural surgeon are advanced cases who should have been long under treatment, before a large part of their loss had become irremediable; and until discouragement of those needing treatment ceases to be the rule, this will always limit the degree of success attainable.

In the great majority of cases, decided gain will follow rational treatment, and while this may leave the patient possessed of only a pitiable remnant of hearing, this may be many times as great as before, and a most acceptable benefit to him, permitting his retention of bread-winning occupations and the enjoyment of social conversation. For the attainment of this result no elaborate apparatus or methods are needed, nor should many careful physicians lack the skill to employ them efficiently. Too many who now have the appliances fail to use them to advantage, and little benefit, if not, indeed, actual damage results.

The naso-pharynx, from which the affection proceeded, must first be gotten into better condition—a task easily begun, though, perhaps, impossible of completion in the conditions under which the patient lives. Only a small proportion of cases will present deformities or hypertrophies, which compel operative intervention to free the air passages. Vigorous spraying with an alkaline fluid such as Dobell's in the hand atomizer, will generally suffice to fairly cleanse the pharynx vault; but must be supplemented by mopping the region of the tube-mouths, and any parts to which the mucous clings, with the bent applicator, generally charged with glycerole of tannin or of iodine. An oil-spray can usually advantageously follow—that of menthol-camphor, 1 per cent to 2 per cent being my choice for most cases. This gives a protecting coating to surfaces denuded of their usual covering of mucous and about to be exposed naked to the outer air; while it medicates the cavities with a stimulating, disinfecting vapor, which will saturate every breath of air passing into the nose for a considerable while. It lubricates the nose too, as is not rarely desirable, for the easy passage of the catheter.

This procedure ought to be fairly easy, although a good

catheter is a very important factor, with difficulty attainable. Most of the hard rubber instruments and many of those of silver are too thick-walled, affording too great rigidity and too little lumen for their external calibre. One of three millimetres external, and two millimetres internal diameter, and thirteen centimetres length, made of virgin silver to secure full pliability, serves me in all but exceptional cases. The auscultation tube with which some workers dispense, is to me very necessary. Only by its aid or the examination of the drumhead later, can we determine that the tympanum is actually reached by our inflations—the patient's statement as to it is almost absolutely worthless, however honestly made. It is usually easy to place the catheter in position with its beak in the mouth of the Eustachian tube, but its lumen must correspond with that of the tube if we are to succeed, and there is no rule by which this can be accomplished. Ausculting, we know at once whether we fail at first, and can take the proper steps to correct the position.

With the catheter rightly placed, it is easy to substitute the atomizer with its oily spray for the air-bag and to spray the fluid freely up the tube. Whether this will pass clear to the tympanic cavity depends upon the individual conditions; but the oil will certainly be deposited upon the walls of the tube and of the catheter, and subsequent use of the air-bag will generally carry it into the tympanum. Pure fluid petrolatum is highly commended for this use, but I believe we can accomplish more by medicating it, generally with 1 to 2 per cent menthol-camphor. Any other medication can be employed, such as the Lugol solution, which was Hinton's favorite, to which he ascribed successes such as few have since obtained. Careful use of massage with the pneumatic speculum of Sieglé or any equivalent apparatus should always complete the procedure. There are a score of appliances which have been put forward for accomplishing more or less satisfactorily this line of treatment, but my experience with many of them leaves me in doubt if any are as good, while none are as simple, as this which I advocate. The possibilities of harm are at the minimum, and a year or more of its use in just this form has brought

me few cases that did not show distinct benefit. Often patients who had recently left well-known otologists after a long but futile course of treatment, have gone ahead most flatteringly under this; and cases of my own in whom I had been previously able merely to stem for the time the ebbing of the hearing, have been among those who gave evidence of the greater potency of treatment in this form.

The object of this brief paper is to reiterate that long-used methods of treatment have by no means become obsolete, but that with minute attention to improved detail, they may be made still more useful than in the past. Without denouncing the "new" and "radical" procedures which are constantly being thrust into notice, I may fairly insist that better results can generally be secured by avoiding these too much welcomed innovations. It may be best to state that I am personally familiar with the newer procedures of "excision," etc., and do not proclaim them wanting without having weighed them. One must run the risk of being considered a hopeless fossil if he is not an advocate of "advanced methods," but he does not deserve it unless he condemns them untried. If my operated cases have not been numerous, it is because I have been scrupulously careful in selecting them; but I have seen and must count as failures many of the published "successes" of others, or have promptly benefitted greatly by non-operative measures dozens who had just received the fullest assurance that operation alone could help them. The pathology of the trouble must not be forgotten. It tends to a sclerotic thickening or stiffening of the conducting apparatus, impairing its mobility, and, secondarily, often affecting the percipient parts of the organ. This atrophic process must be combated by medicinal and mechanical measures rationally directed to meet the needs of the individual case. Elimination by operation of the impaired conducting structures might avail greatly, if the advance of the process were not thereby hastened in those that remain. A considerable experience proves that most of the excision cases have lost, in about a year after operation, not only all that it gained for them, but also much, if not all, of the hearing which they previously enjoyed and might never have been deprived of in the ordinary course of events.

The treatment here advocated is not likely to arouse any enthusiasm. It holds out no brilliant prospect of phenomenal success. It is too like many measures considered "just as good," and offers no alluring new instrument to be exploited and then exploded. Many may consider it too simple to merit trial; some will deny it any title to simplicity, since it calls for six or eight steps, each or all of which may be bungled by him who tries to improve on them before he has learned them. Those who will fairly and skillfully test it may find it a real addition to their resources.

SOME UNUSUAL COMPLICATIONS OF TYPHOID FEVER.

By J. I. JOHNSTON, M. D.,
OF PITTSBURG.

Mr. President and Members of the Medical Society of the State of Pennsylvania:—In a practice extending over a very few years, and most of that time as a hospital-interne, it has been the fortune of the writer to meet with some of the unusual complications of typhoid fever. To the brief consideration and report of these cases your attention is asked, with the hope that this record may prove of interest to some, if not profit.

As we all know, any symptom of this complex infectious disease carried to an extreme degree becomes a complication, it is not to be wondered at that some complications herein recorded as unusual are found in this category of aggravated symptoms. And first of these is epistaxis—profuse, and even controlled with difficulty. While this symptom is more common to typhoid fever in its early stages than to any other infectious disease, rarely does it cause any anxiety.

A lad, nineteen years of age, in the Presbyterian Hospital in Philadelphia, suffered from copious, and, for a time, uncontrollable hemorrhage from the nose. The anterior and the posterior nares were repeatedly plugged, but failed to control the bleeding entirely. The patient suffered also from large intestinal hemorrhages, but a fatal issue was no doubt hastened by the uncontrollable epistaxis. Of course, the hemorrhagic diathesis must be, and was thought of in this case, and possibly existed, although the history gave no indication of hemophilia.

Another complication which is indeed comparatively common, so much so that the type known as typhoid-pneumonia (wrongly so called) is familiar to all of us, is a croupous pneumonia developing during the second or third week; but to have a pneumonia limited to the middle portion of the right

lung, accompanied by higher evening temperature, cough, rusty and tenacious expectoration, with all the signs of croupous pneumonia, is somewhat unique. Such a case was seen in private practice a few months ago, and while the pneumonia and other complications protracted the course of the disease to ten weeks, recovery followed. In regard to the physical signs in the above case, they were limited to the middle portion of the right lung with no consolidation of base or apex—possibly to the middle lobe of that lung. In this case the sputum was rusty and tenacious, which is not always present in this complication, and hence causes it to be frequently overlooked. Liberal doses of strychnina and whiskey were given at frequent intervals, and the alarming symptoms disappeared in five or six days.

Acute pleurisy occurs occasionally in connection with typhoid fever, and in a case noted a short time ago was quite severe; but was not followed by effusion, or, at least, none to cause cardiac displacement, or give rise to other signs of hydrothorax. This patient had also hemoptysis during the complicating pleurisy, but not profuse.

While every careful observer must and does examine the heart daily for weakening of the systolic sound, few cases of endocarditis are reported; and the one herein recorded is rather that of typhoid fever occurring in a patient suffering from chronic valvular endocarditis, than a complication or rather sequel of this disease.

On first examination the patient had a marked systolic murmur, heard best at the apex, and transmitted to the axilla and the angle of the scapula. The case was seen early in the disease, and beyond slight cyanosis there was no evidence of broken compensation. Digitalis (with slight intermissions) and fair doses of strychnina were given throughout, and after a rather severe attack a good recovery followed. Phlegmasia dolens of the left side as a sequel prolonged the convalescence, and when discharged the systolic murmur was still present.

Alveolar abscess is a complication said to occur not very infrequently, but only one was seen in the present series of cases. This was in the lower jaw, was about the size of a walnut, was incised upon the mucous surface, where it pointed, and healed rapidly after free evacuation.

A very rare complication is hepatic abscess. In September, 1895, there was under the author's care, in the wards of the Presbyterian Hospital of Pittsburg and Allegheny, a woman who ran through a very mild attack of fever lasting four or five weeks. After the temperature had been down for about ten days—although it never reached the normal to remain—she passed into the hands of a colleague in the change of hospital service. Six days later she was seen by the writer and his colleagues in consultation, with the history of a sudden rise of temperature and marked jaundice, followed in twenty-four hours by the appearance of a small tumor in the region of the liver. These symptoms and signs followed the ingestion of solid food, and a relapse was at first suspected, until the development of the tumor. The tumor increased in size, and the symptoms became so urgent that an exploratory operation became imperative. Pyelophlebitis and hepatic abscess were suggested at the consultation, but no positive diagnosis was made, misled by the absence of chills and sweats and by the rarity of the complication. Distended gall-bladder from impaction was also mentioned, and seemed probable. There was present a small amount of ascitic fluid. On making an incision into the abdominal cavity over the region of the tumor, a large hepatic abscess presented, pointing into the wound, which was incised, drained, and the edges of the abscess cavity stitched to the wound in the abdominal walls, establishing a fistula. Digital examination of the portal vessels, as far as could be made, revealed nothing abnormal. There was complete amelioration of the symptoms, the temperature falling at once to normal, with no subsequent rise. The fistula, after discharging for some weeks, healed completely; and at last report the patient was in perfect health, and advanced to the seventh month in pregnancy. It is to be regretted that no bacteriological examination of the pus could be made. The abscess was evidently single, which writers tell us is unusual. The diagnosis of typhoid fever in this case is thought to be beyond question, as the patient had been nursing in a family where there were five cases of that disease, and she suffered from bronchial catarrh, epistaxis, diarrhœa, splenic enlargement, high continued fever, and the characteristic eruption.

The fact, that even in the mildest cases perforation is to be feared, was forcibly demonstrated in practice a short time ago:

The patient, a very robust man, thirty years of age, began his attack with symptoms closely resembling influenza, followed in seven or eight days by a very copious and extensive eruption. Beginning his third week, and with symptoms very favorable, he awoke suddenly from sleep, complained to the nurse of a very severe pain in the right iliac fossa, sunk immediately into collapse, and died in a few minutes. When visited a

few hours before, his heart was acting well, and his death was attributed to shock following intestinal perforation. Unfortunately no autopsy was allowed.

In strong contrast with the above, and by far the commonest, are those cases of perforation in which the opening through the intestine is small and the patient suffers from general peritonitis, death occurring from a few hours to several days later.

Such a case was seen in the Presbyterian Hospital in Philadelphia, in which the patient, a man thirty-three years of age, and discharged cured from another hospital in that city, suffered from a relapse six weeks after convalescence had been established, and after he had resumed his occupation. He was admitted to the hospital wards with the signs and symptoms of the disease again well-marked, and a few days later was seized with sharp pain in the right iliac fossa followed by general peritonitis and death in about twelve hours. The autopsy revealed two perforations of the small intestine near the ilio-cæcal valve and general peritonitis—one opening would admit the tip of the little finger. Scars of healed typhoid ulcers were abundant.

It may not be amiss to mention here a diagnostic sign of some importance spoken of by Pepper and others, in the differentiation between tympanites, due to gas within the intestines and that within the peritoneal cavity, from peritonitis, viz.: obliteration of liver dullness. This sign has been noted, and found useful in diagnosis in cases of marked tympanites which have come under personal observation.

Another uncommon complication of this disease is hyperpyrexia, except, perhaps, just before death, when indeed the temperature is often very high. In a comparatively recent report published by Dr. Osler, of Johns Hopkins Hospital, Baltimore, out of a series of two hundred and sixty cases only eight had a temperature above 106° F., and of these the mortality was fifty per cent.

Two cases seen by the writer of this paper had temperatures of 106.4° F. and 106.6° F. respectively, and while both were further complicated by intestinal hemorrhages and most severe nervous symptoms, complete recovery followed in both cases. In the latter case, the temperature reached 106° F. two or three times despite thorough hydropathy. Both patients were highly neurotic; one—a woman—presented another peculiar, and, at the time, a puzzling complication. When reacting from the

results of profuse hemorrhage, and under active stimulation of strychnina and whiskey, she suddenly developed convulsions, and had, within twenty-four hours, five attacks simulating epilepsy. There was no history of epilepsy, and they were presumably not hysterical attacks, for she bit her tongue, was unconscious, and bloody, frothy mucus flowed from her mouth—these were followed by periods of great depression. Meningitis was suggested, but, after decreasing the stimulants of which she was taking large quantities, all symptoms disappeared, and she made from that time a rapid and permanent convalescence. The only explanation that occurs to the observer to account for these attacks, and which seems to be confirmed by their disappearance on decreasing the drugs named, is over-stimulation.

Periosteitis follows typhoid fever occasionally—that of the tibia most frequently—while Pepper records cases of periosteitis of the sternum and even of the vertebræ. Those who have collected these cases tell us that when this complication does occur its usual seat is the tibia, and generally both tibiæ simultaneously, and that it may subside or go to necrosis.

A case previously mentioned in this paper as complicated by croupous pneumonia suffered also from periosteitis of the right tibia, and of it alone. Three different times incisions were made through the periosteum, giving free evacuation to the pus; but no necrosis followed, the parts healing entirely in a few weeks.

In the cases which have come under personal observation menstruation was almost always disturbed, and in all cases, save one, it was either scanty or absent. In this case the menstruation was most profuse for eight days, which the patient said was the usual length of time.

One of the most interesting cases observed was that of the malignant or septicemic type, and may well be presented in this paper as a case complicated by extreme toxemia.

The patient had been treated for a week or ten days for influenza, but on admission to the hospital a diagnosis of typhoid fever was made. Stupor was profound, black sordes covered the mouth and tongue, the lips and face were cyanotic, the temperature was very high, and the eruption had appeared on the abdomen and back, and the spots were dark. In a few days petechiæ appeared, and ecchymotic patches and mottling also developed. The picture corresponded to the description of typhus fever somewhat, and that disease was suggested, and the patient

isolated. The case terminated fatally in a few days, an autopsy was refused, unfortunately it was not insisted upon. No other cases developed.

It is regretted by the writer that more details of these cases could not be given, but time does not permit. Hydropathy by tub, pack, and sponging, constituted the chief factors in the treatment of these cases.

SOME CLINICAL FACTS CONCERNING EYE STRAIN.

By JEAN SAYLOR-BROWN, A. B., M. D.,

OF WILLIAMSPORT.

It is exceedingly interesting and instructive to observe and follow the lines of controversial argument on various topics, that are carried on by people of high intelligence, especially when the questions under consideration are purely theoretical, speculative or *a priori*. The extent to which such questions can be discussed by brilliant minds, has no end. In all controversies the end in view is the ascertainment of facts, and where we have facts at our command, it is a useless waste of time and gray matter to theorize as to the possibility of their existence, especially in as important a field as that of medicine. Consequently, I shall approach this subject by first presenting facts in the way of clinical cases. From these facts, discussions of a problematic character, involving an effort to solve the reason for the facts, will sooner lead to an intelligent understanding. "Theories are evanescent, but facts are forever facts."

Case 1, aged 33. Always had more or less headache, intensifying at intervals to a severe neuralgic pain, beginning in the right eye, and extending over that side of the head. He cannot remember when he did not have a chronic sore throat, has used an atomizer daily for twenty years to relieve the sense of discomfort and post-nasal dryness. When he had taken cold, which was with every change of weather temperature, it was so much worse that he had with it fever and so much constitutional disturbance that he was compelled to stay in the house and have his physician. This, with "catarrh of the stomach and bowels," that never seemed to "stay cured," made his life anything but comfortable. I know he had careful, intelligent medical attention, for during the time I had been his family physician, for ten years, he had seen many good specialists.

As to his eyes, he had myopic astigmatism, for which he had been fitted early in life. I found, in addition, a short muscle of the right eye. During one of his severe exacerbations of pain, ten degrees of prism gave him relief in a few minutes. Usually the pain lasted all night. I operated April 3, 1894. Since that time, he has had not only freedom from the distressing pain in his head and all throat and stomach symptoms, but a greatly improved condition of general health, weight, etc.

When I asked him what I should say of him in my present paper, he replied: "Say anything you wish, no matter how strong it may be; I can endorse it." But as this is not a newspaper testimonial, but a physician's statement, I must simply state clinical facts.

Case 2, aged 50. When about fourteen, had the first of a series of paralytic attacks. At that time the right side only was affected, but other attacks followed, and the whole body was involved. There was first a peculiar sensation in the ends of the fingers, then pain beginning in the back of the neck, and extending over the top of the head to the outer canthus of the right eye. The tongue was cold and numb. Both sensation and motion were affected and the power of speech interfered with. The attacks came from one to three times in a month, and continued from a few hours to several days at a time.

She has been my patient for over twenty years, with others consulting. She was subjected to various kinds of treatment, prominent among which were blisters applied over the upper dorsal region. These gave temporary relief, but neither blisters, electricity, massage nor internal remedies, all of which were faithfully tried, proved curative.

Two years ago, I operated for exophoria of the right eye. She has had only one very slight attack since, although she has been under the constant strain of caring for a sick mother who has serious heart trouble.

Case 3, aged 34. Cannot remember the time when she did not have a troublesome, nervous cough, sharp, barking, spasmodic. (When she had a cold it was like whooping-cough.) It was so bad as to be not only distressing to herself, but very annoying to others (often keeping her from going to church). Severe nervous headaches, beginning over the eyes and extending to the back of the neck. The scalp was always sore and sensitive, a numbness of the left side, back and arms, with severe cramps at intervals, at night, in the left leg. For years had "spells," lasting sometimes for hours, when it seemed as if a wheel of many colored lights was revolving rapidly at a short distance before her eyes. She has worn glasses for years for hypermetropia and astigmatism. My tests showed a short upper muscle. Her symptoms were all mitigated by wearing, for several weeks, 12° of prism. Since a tenotomy, she has been relieved of all the symptoms above narrated, has an improved appetite and seems much stronger. (Says she "feels altogether different, and like another person.")

Case 4, aged 48. For many years had a distressing sensation, as if a band about two inches wide was drawn tightly over the top of his head. Nearly always felt depressed; such an utter inability for either mental or physical exertion, that it often required a great effort to attend to business. Was fitted with glasses by various specialists, some of them noted ones, but the lenses prescribed always seemed to make his head feel worse rather than better. Nearly two years ago he came under my care. I was greatly puzzled over the case for a time, as it seemed impossible to bring the eyes to one point, but they finally fused under 60° of prism. I kept him for a week under all the prisms I could adjust in spectacles, and then operated on the left extermus, when he fused under 10° of prism, base in. A few months later, a tenotomy of the right extermus relieved all his uncomfortable symptoms.

Case 5, aged 38. Has always been extremely nervous, but all the symptoms gradually increased until she was so bad that she had a kind of nervous shock whenever any one approached her, and sometimes actually screamed if any one suddenly came in sight, or she heard a voice but saw no person. The lower half of her body had a peculiar sensation of weakness and loss of power. She passed very large quantities of urine and passed it very often, always having to get up several times at night. In December, 1894, she consulted me, a pair of "fog" glasses were put on, and, for the first night in many years, she did not once get up to urinate. The urinary trouble really disappeared at once, but some nervous symptoms remained, and six months after she had an operation on her right eye, from which time there was gradual but decided improvement in all the symptoms, until, at the present time, she calls herself *well*, and says she has gained at least thirty pounds in weight.

Case 6, aged 31. Three years ago this woman came to me with the following history: Comparatively well and strong until she was 20 years of age; then, when climbing a fence, she fell a distance of six feet, sitting violently upon the ground. She was prostrated for days, and had suffered ever since with constant backache, and headache, the latter increasing to a severe "sick headache" at each menstrual epoch. After several years, these came regularly every two weeks, and were brought on at any time by attending an evening entertainment; even a few hours in bright sunlight would precipitate an attack of severe headache with intense nausea and vomiting, lasting from twenty-four to forty-eight hours. I found a displaced and congested uterus; when this was relieved the backache disappeared, and the constant discomfort in the head, but there was no change in the periodical headaches. She had, for years, been wearing glasses, fitted by an oculist. Over a year ago she returned to me. I then began to investigate her eyes. Both near and distant vision were imperfect. Examination showed:

Right eye, $\frac{20}{40}$; left eye, $\frac{20}{50}$. At the near point could not read Snellens' No. 5 at 14 inches.

Right eye manifest hypermetropia, 2 D, $\frac{20}{20}$.

Left eye manifest hypermetropia, 2.25 D, $\frac{20}{20}$.

Manifest esophora, 9°.

Right eye plus 2 with 2° prism base out, $\frac{20}{20}$.

Left eye plus 2.25 with 2° prism base out, $\frac{20}{20}$.

These glasses gave her normal, distant vision, and she was able to read Snellen's type, No. 1, from 10 to 14 inches. The six months she wore these she was relieved of all headaches, except those at the menstrual periods, but these lasted longer, often four days, leaving her greatly prostrated. She pleaded for an operation, and after I performed a tenotomy of one eye, we found we had secured normal vision in that eye. Two weeks later, we secured the same result by operating on the other eye. She has not had so much as a suspicion of headache since the last operation, has no need for glasses for distant vision. When reading, I have her wear, to rest the eye, plus 1 D.

Case 7, aged 53. Had suffered from early girlhood from cramps in the fourth toe of the right foot, and spasm of the esophagus. Had attacks once or twice every day, sometimes—especially the cramp in the toe—lasting for many hours. The spasm of the esophagus was more likely to occur after taking food or drink, but was, by no means, confined to that time. A band of muscles near the upper part and a band near the lower part were apt to be affected at the same time, leaving imprisoned gases or liquids in the intervening space, causing intense distress until the spasm was relieved, and the retained matters pressed either into the mouth or stomach. But perhaps the most intense suffering came from the toe, the pain sometimes extending to the hip, and being so great that she was obliged to remove her shoe wherever she might be, and often necessitated walking from the street-car to the house in her stocking. She often felt that she would willingly submit to amputation of the whole foot to be rid of the trouble. She was wearing:

Plus 3.D with plus 0.50 cy. for distance.
Plus 5.D with plus 0.50 cy. for reading.

I increased the strength of spherical to a slight fog for distance, and 5° of esophoria disappeared in two weeks. After wearing this for several weeks with almost entire relief, I operated. After this she had absolute relief for many months. Then, after a long and exhausting illness, on a day when she had been especially taxed mentally, she would have slight traces of the old pain.

Case 8, aged 25. At the age of 19, during his sophmore year at college, after having studied hard and being "run down," without warning, had the first epileptoid attack, followed by others at regular intervals,

always at night. He left school and began light manual labor, but still the attacks came. Under the use of large doses of bromides, they finally came only one every six weeks. When I first saw him, nearly a year ago, he was covered with the bromide acne. We at once stopped all medicine. The tests with prisms showed a manifest hyperphoria of the left eye, this developed to 10°. He wore that amount of prism four months, and had, during that time, but two attacks. These both came when his glasses were broken and he had been without them for forty-eight hours. As he was greatly averse to wearing glasses permanently, he wanted an operation. After this was done, he went over four months without an attack, and greatly improved in general health, when, after spending four days with some friends in New York, taking, as he modestly admits, at least three dozen Manhattan cocktails, and smoking to excess, he had one. He is not given to the taking of intoxicants, and as that amount of unusual dissipation might give any of us an attack, like Rip Van Winkle, "We wont count that one," and he has had none since.

Case 9, aged 33. From her earliest remembrance, had trouble with her eyes, pain if they were used much. Has worn glasses for mixed astigmatism since she was eighteen. Has also always been subject to attacks of great discomfort in the head, especially the occipital region; a sensation as if the head grew large and then small, and after this feeling passed away, so much soreness remained that she could not bear the occiput to touch the pillow. For these conditions she had a great variety of treatment, such as blisters over the mastoid processes, and when in boarding-school, hot baths followed by cold affusions. In spite of all, however, the attacks increased in frequency and severity, until she became very nervous. When worried or excited, would lose consciousness for a few seconds or minutes. Was married about twelve years ago, and since then has had nine pregnancies, but all except the last resulted in either miscarriages or premature births. Two years ago I operated for hyperphoria of the right eye. She now wears only a 1 D for near work. Since the operation, she has been relieved of the distressing head symptoms, and only once since, and that more than a year ago, has had an unconscious spell. Six months ago, she gave birth to a strong, healthy child at full term.

Case 10, aged 70. For at least thirty-five years was a great sufferer from neuralgia in the head, face, neck and chest. For years the eyes did not seem to be affected, but about fifteen years ago began to have pain in them also, and looking in certain directions there seemed to be a mist before them. These neuralgic pains were almost always felt in a greater or less degree, but every month, or even oftener, she was confined to her bed for some days, suffering intensely. She consulted many physicians (among them one of our most distinguished specialists in nervous

diseases, under whose care she remained a whole year), and she tried many remedies, and had glasses fitted by several different oculists, but only experienced very temporary relief, until August 15, 1894, I discovered 4° of exophoria and prescribed, in connection with the glasses she was then wearing, a 2° prism base in for each eye, and she has been entirely relieved of all neuralgic pain from that time to the present.

Case 11, aged 33. Father of this patient suffered from severe headaches, and finally died insane. When she first came to me, was so nervous that I could get no history, and I will only mention a few facts of which she wrote me afterwards. She writes: "After an unusual strain caused by writing several days, my health seemed to suddenly give way; first a severe nervous headache, then a long train of terrible nervous symptoms. I had constant pain in my eyes and head, and a sound of rushing water in my ears. I could not think of any one subject more than a few minutes at a time. I would then feel tired beyond expression. Sometimes the nerves through my head seemed to be twitching. I could feel the pain start from my right eye through my head to the neck, through the shoulder, down to the tips of my fingers. A disagreeable drawing feeling through the head just back of the ears, or at the base of the brain was nearly always present. At times I would lose control of my mind altogether; these spells would last for about an hour. The care of my child, three years old, affected my nerves in such a manner that for fear of hurting her or something worse, I would scream at the top of my voice. The pain caused by moving my eyes was so great, and a bright light so intolerable, that I usually kept my eyes bandaged. When I came to you I had been in this condition many months. I had been fitted with glasses two years before I became ill."

I had much trouble to keep the patient quiet long enough to make my tests, her movements were constant and seemed choreic. This, with her intense dread of opening her eyes, made it very hard. However, after I succeeded in placing 10° of prism for hyperphoria, she was much relieved. Two days later, after the first operation, all the nervousness abated. In the next two weeks, I operated for strain of the internal recti, after which her condition seemed entirely normal. (At this time she returned home looking bright and happy, a great contrast to the thin, haggard, melancholy little woman who came to me.) Six months later she wrote, "I have improved right along since the operations. No trouble now with the drawing pains in my head. No trouble with my mind at all. I can use my eyes for sewing, writing, etc., more now than at any time since I began to wear glasses three years ago. I weigh more than ever I did, having gained over twenty pounds since I saw you."

Case 12, aged 39. As this was a hospital case, I quote some brief extracts from the records. Admitted October 4, 1895. About five years

before began to have pain in loins and back, so severe as to incapacitate him for work. This continued for two or three years, when he noticed that he passed an abnormally large quantity of urine; sometimes it was passed every hour, and at times retained for many hours. These and other symptoms, among which were very severe attacks of pain, had led to the belief that he had stone. On admission, he walked with great difficulty, leaning heavily upon his cane. Legs stiff and not well controlled, toes dragging somewhat, reflexes increased. These symptoms more prominent on right side. Hearing very imperfect in both ears, more deaf in right ear. Watch could only be heard faintly when pressed close to meatus. Soon after his admisslon he was etherized and thoroughly examined for stone, but none was found. He then came under my care. His eyes showed the following condition: Hypermetropia 2.50 D.; manifest hyperphoria L. E. 5°, latent 15°; esophoria R. E., manifest 5°.

As soon as he was wearing 20° of prism vertically, there was a marked change in his mental condition. At first he seemed sullen and stupid, and it was with great difficulty that I could get him to understand and reply to my questions; now he took great interest in the tests and replied promptly, easily extended his formerly cramped, stiff fingers, and said he had no longer pain in his back and limbs. I then operated on the short upper muscle. Again I quote from the records: "October 21st, eye-sight improved in regard to distance. Hearing very much improved; watch now heard plainly in the more deaf ear eighteen inches from meatus. Walking somewhat improved, still uncertain, not much control over flexors. Urine in all ways normal, as to manner of passing, number of urinations daily, quantity, etc." There still remained 5° of manifest exophoria. I was much interested in this case, and very anxious to continue the treatment, but he was a township ward, a hundred miles away, and no one to pay for him further. I had him but four weeks when he was removed, and I have not heard from him since.

Case 13, aged 11. This lad came to me a year ago for stammering. I gave him instructions for breathing, gymnastics, etc., at the same time finding him hypermetropic with esophoria. I put on him plus 2 D to fog his vision and 10° of prism. There was a very little improvement in the next six months. I then operated on the short muscles, and at the end of another six months, wrote, asking his teachers to report his condition. Received the following reply: "We see a wonderful improvement in George. At the beginning of the term it was almost impossible for him to recite, as he could scarcely say plainly two words in succession. We tried different ways of having him recite, but it did not help him in the least. We began to think the effort was an injury to him, but after the operation was performed, we began to notice an improvement, and he has continued to improve gradually, until now he can read and recite with

very little hesitation, and sometimes he can recite with no hesitation whatever. It seems to have encouraged him so much, he is doing so much better in his studies."

Case 14, aged 33. When five years old, this patient had measles. The eyes were blind for several days. He was taken to a London hospital and told that his eyes were "turned around," but that if he had glasses he would grow out of it. But, for some reason, no attempt was made to fit him. He always had trouble in school, could not see what was on the blackboard or study his book with satisfaction, and he was glad when, at the age of 12, he was apprenticed to learn the trade of a furniture finisher. It was still difficult for him to see unless he had a very bright light and was very close to his work. As time went on, he developed intense photophobia, and was obliged to wear a shade to shield his eyes, and, in fact, often worked by touch instead of sight. Even then, about once a week, he had such severe burning pain in his eyes, that he was obliged to give up work and lie in bed for a day or two. When about 23, he came to this country and consulted eye specialists (seven in all). One gave him glasses which he wore nine months, but his eyes seemed worse than before. He became discouraged and returned to England. Spent six weeks in a homeopathic eye hospital, and a month at Moorfields Hospital, London. Various tests and examinations of the eyes were made and glasses prescribed. Those they gave him at Moorfield's he was able to wear about an hour at a time, and then remove them to rest his eyes. The prescription was:

R plus 2 D with plus 5.50 cyl. axis vert. $= \frac{6}{24}$.
L plus 1.50 D with plus 5 D cyl. axis vert. $= \frac{6}{18}$.

After two years, he threw them aside and tried other oculists. Mydriatics were used and ophthalmic examinations made, but he obtained no relief. In August, 1894, a Williamsport optician sent him to me. He came, hoping an operation might relieve him. There was hyperphoria of the right eye and esophoria of both eyes. At intervals of two weeks, the needed tenotomies were made. The burning pain was gone; he looked far or near with ease. He has worked steadily ever since with no return of any uncomfortable sensations. His distant vision $\frac{20}{10}$. He wears plus 2 D., only for reading.

Case 15, aged 60. Frequent analysis showed this patient had had, for more than a year, albumen, tube casts (large and small). Three months after an operation for exophoria, the most careful microscopic tests (at home and in New York) discovered not the slightest trace of albumen or casts. I present this case without comment.

SOME UNUSUAL CONDITIONS DUE TO MALARIAL INTOXICATION.

By H. A. MOWERY, M. D.,
OF MARIETTA.

When hastily summoned to the bedside of some unfortunate brother, we find muscular tremors, chattering of the teeth, sensations of cold, dark rings about the eyes, an anxious expression, the skin shrunken, the fingers dead white and cold, and withal a temperature within the mouth or rectum above normal; our diagnosis is readily made, and the remedy quickly applied. Malaria, however, does not always present itself in so simple a form. The most difficult cases are those in which the symptoms are irregular. They may indicate on the one hand a condition of plethora, on the other one of anemia.

A careful study of the protozoa of Laveran within the body, their development and manner of multiplication, how they absorb the hemoglobine and set free melanine, and how, during the cycle of their existence, ptomaines, probably a carbon toxin, are found, which produces a necrotic effect upon the red blood corpuscles, thus destroying them and liberating the protozoa, and furthermore acting as an irritant upon other tissues and structures of the body, we will have a good theoretical basis upon which to explain the widely different conditions and symptoms which confront us daily.

It is now, I believe, pretty generally believed that the malarial germ enters the system through the alimentary canal, hence we may reasonably expect its earliest effects to be upon the glands and other structures of the abdominal cavity. And so it is. The liver very early in persons living in malarial districts shows disturbances. One of the earliest conditions is that known as biliousness, in which there is an excessive amount of bile secreted, acrid in character, irritating the mucous lining

of the alimentary canal, producing directly vomiting and diarrhœa, or reflexly vomiting, and especially in children, spasms. Or, in its engorged condition it may fail to remove entirely the bile elements from the blood, or, in fact, may generate new poisons, which, in their journey through the circulation serve as irritants, producing congestions in different organs, more particularly of the brain and its coverings, producing, if not dangerous, at least alarming symptoms. I am sure I have seen coma, and in other cases meningeal irritation, due to this condition. This organ in miasmatic districts, because of the constant congested condition, takes on hypertrophy, sometimes doubling itself in weight. I have seen the left lobe so large as to occupy the entire abdominal cavity.

The spleen also very early in malarial attacks becomes congested and enlarged—hypertrophied, forming what is commonly known as "ague cake."

As the spleen is one of, and perhaps the largest of the glands in which originate the white blood corpuscles, any excessive stimulation will increase the number of these corpuscles, while, at the same time, the destructive effects of the protozoa upon the red blood corpuscles produce the peculiar condition of anemia known as malarial cachexia, which we so frequently see in miasmatic districts.

Disturbances of the digestive function are quite common. It may be painful or it may be incomplete, so that the nutrient material may not be in a proper condition to enter the circulation. Softening of the mucous lining of the stomach and duodenum, as well as of the liver and spleen, are some of the pathological conditions seen after death.

Neuralgias of different parts of the body, due to miasmatic influences, are common cases in every one's practice. Facial neuralgias especially; but some of the most severe forms, however, are visceral neuralgias.

One of the most obstinate and painful cases I ever saw was one of malarial origin. The pain was located in the epigastrium, and was most intense; but pain was not the only symptom, however. There were total loss of appetite with anorexia, and a slowing of the heart's action until its beats numbered but thirty-nine per minute. This condition continued

for a week or ten days, relief only coming through the use of morphia sulphate. When pain did cease my patient was in collapse, and I feared the worst; but, by constant stimulation, after two or three days the heart's action began to improve, after which by the continued use of cinchona salts he made a good recovery.

Many of the ovarian and uterine neuralgias are due to malarial influences, and will yield only to antiperiodic remedies. Dysmenorrhœa and amenorrhœa are frequently the result of the anemia produced by malarial influences, and menorrhagia and menorrhœa may be the result of pelvic engorgement due to the same cause. Other pelvic symptoms for which the physician is consulted are pains in the back, bearing-down sensations, leucorrhœa, etc., all of which in many cases are quickly cured by the administration of anti-malarial remedies and tonics.

Some of the most perplexing cases are those in which the poison exerts its energies upon the nutritive functions of the body—where the blood is so poor in oxygen as to be incapable of thoroughly oxydizing the waste products of the tissues—thus preparing them for removal, and when the tissues seem to have lost their power to abstract from the circulating medium the essential elements necessary for their growth and development. Such cases we have as hemophilia. That such a case may be acquired through malarial influences I have no doubt, as I have had under my care just such a case.

One year ago a boy about eight years old, fell and cut his little finger, severing the external digital artery. Without going into details as to the treatment I will say we had the greatest difficulty in arresting the hemorrhage. Previous to this accident he had been having epistaxis; but, so far as I can learn, no one considered it of any serious consequence. His hemorrhages continued, and I think in September of last year he voided blood with the urine. His temperature ranged during my acquaintance with him from one-half to one degree above normal. The previous history of this case is that in his infancy and up to the age of five years' his health was good—he was well nourished and active as boys of that age usually are. From that time on he began to decline. There was no sickness, but he grew listless, lost flesh, became weak, and was easily fatigued. The boy's condition became alarming. At this stage of the condition I was summoned to stop the bleeding from his little finger.

After observing the case for about ten days I concluded my diagnosis, and put him upon anti-malarial remedies together with tonics and such other symptomatic treatment as was required. The result has been slow, but good. He has had no hemorrhages since last November, has a good appetite, sleeps well and has gained in weight, and is quite lively and cheerful.

Irritability of the bladder is another condition we quite frequently meet with, as well as cutaneous irritation known as urticaria. Where diseases are marked with periodicity or a rise in temperature without symptoms of inflammation, we have good reason to suspect malaria, and treat the symptoms accordingly. There is no doubt in my mind that many grave cases of visceral inflammations and degenerations had their origin in malarial intoxication, and could have been cured in their early stages by proper treatment, or, if necessary, removal to more salubrious climates.

THE PRISMATIC PERIMETER.

By JOSEPH E. WILLETTS, M. D.,

EXECUTIVE OPHTHALMIC SURGEON TO THE EYE AND EAR HOSPITAL OF PITTSBURG.

Mr. President and Gentlemen: The importance of determining the visual acuity of the peripheral portions of the retina is fully appreciated by the oculist. The field of vision may be defective with respect to all or any of the senses of form, color or light. As the characters of such defects often constitute important data upon which to base diagnoses and prognoses, the accurate testing of the peripheral retinal functions should have an important place in the subjective examination of the eye. Peripheral vision may be defective in continuity or in acuity; often there is a defect in both respects at the same time; but besides regular interruptions in the continuity of the field of vision, we have irregular breaches in continuity, or more or less blind portions surrounded by normal or relatively normal portions of the field, to which the name *scotomata* has been given.

There is scarcely any intraocular disease that is not accompanied by changes in the visual fields. Thus, in optic atrophy, we have a concentric contraction of the form and color fields. In glaucoma the contraction of the field is quite characteristic of the disease. First the inner, and then the upper and lower portions of the field begin to contract, and this contraction gradually extends toward the centre of the field. In *retinitis pigmentosa* there is also a contraction of the field which is most characteristic of the disease. Here we find concentric limitation of the field, which involves all the peripheral portions equally, often leaving comparatively good central vision, even when the disease is well advanced. In detachment of the retina the perimeter aids us not only in determining the extent of the

detachment, but in the prognosis. In the various forms of hemianopsia, and toxic amblyopia due to tobacco and alcohol the perimeter is valuable, for by it we are enabled to discern a central *scotoma* for colors, which is pathognomonic of these affections.

Hirschberg believes that a differential diagnosis between tobacco-amblyopia and alcohol-amblyopia can be established by the location and form of the *scotoma.* In alcohol-amblyopia the *scotoma* is "peri-central," *i. e.*, it lies about the macula, whereas, in the tobacco-amblyopia, it is "para-central," being more distinctly oval in shape, and extending from the macula to the blind spot.

The time limitation for the reading of papers does not permit me to go into the details of the various perimeters, except to say that they are all one and the same thing, that is, modifications of the same principle. Considering the importance of the results to be obtained and being cognizant of a fault it possesses, I think it well to look at this instrument a little more carefully and find wherein the fault lies. The instrument presented is the one in general use. It is a gruesome, mysterious looking affair, consisting of an arc and a chin rest which compels the patient as well as the operator to assume an unnatural, constrained position, for a length of time varying according to the intelligence of the patient or the perception of the operator; and giving results which look exceedingly scientific and add greatly to the appearance, if not to the worth, of reprints. The patient is seated in front with the chin in the rest provided for it, and one eye being covered, he is directed to gaze steadfastly at the stationary disc which should be in a direct median line with the eye of the patient, but is not in this instrument. The top of this projection, which acts as a director, is on a median line with the stationary disc. This seemingly is but a small matter, but in reality is one of material importance. As it is now, the patient is forced to rest the margin of the lower lid against it, which sets up a blepharospasm, causing a constant changing of position and a restriction of the inferior field. If the chin-rest is raised, then the antero-posterior axis of the eye is above that of the disc, which adds to the unreliability of the results.

To be scientifically consistent with the laws of physiological optics, the field of vision should only be taken after the error of refraction has been corrected. Just what part high degrees of hypermetropic astigmatism and other forms of ametropia would play in the conjugate focus or deviation of rays, I am not prepared to say, but I think the error capable of mathematical demonstration. Considering that the field of vision is always taken without the error of refraction being corrected, and considering the fact that it is impossible to take the field of vision with this instrument after the error has been corrected, on account of the rim of the glass interfering with the vision, together with the fact that the result of the examination is modified or dependent on the personal equation of the patient, whose position and surroundings are not such to facilitate quick perception, makes the practicability of this instrument questionable. What can we expect of this instrument with uninstructed patients, where the operator must rely on the personal equation of the patient and his own ability, not only to approximate the degree on the unmarked portion of the perimeter, but also to approximate how much the field of vision is cut off by an unusually high nasal bridge, a prominent brow, or a malar bone? How is this approximation of restricted field from a prominent feature made? Is it computed by figures? Is there a known amount of restriction of the visual field for each mm. of prominence of individual features above normal?

No; the result is accepted regardless of personal equation, the physiognomy, or the position of the patient, and an approximate allowance made for the numerous inaccuracies, of which the position of the patient is not a minor one by any means, especially in those cases of a neurotic type—cases of hysteria in which we are called upon to take the field of vision, and who will not remain in the proper position. In such cases the forehead may be inclined forward, with the eye close to the projection in a straight line above the stationary disc, thus giving the field a wide scope in one meridian with its consequent error; while in the next meridian the chin will be thrust forward and the eye drawn backward, and the in-

ferior field greatly restricted, to say nothing of the patient's inability to control the tendency to look at the moving disc instead of the stationary one, which also materially adds to the unreliability of the results obtained. Disregarding these objections, it has other disqualifications which practically remove its only advantage, that of chart producing, by which we may keep a record and reproduce it if desired, and I feel free to say that these are about the only cases in which it is used. For office practice the field is taken by having the patient fix his eye on that of the operator, and bringing the finger in from the periphery in the various meridians, and this is just as accurate and just as scientific, and can be accomplished in the time necessary to get the perimeter ready, but it has no method by which the result can be expressed. The perimeter gives a method of expression, but an imperfect one, and in proof of this statement, I ask any one to show me ten fields of vision, any two alike, taken from the same patient, under any conditions.

This extreme variation in results is dependent on the objections named and also on other conditions. The most important requisite for the accurate testing of peripheral retinal function is light—not reflected light, but a certain light stimulus, which must be accepted and used in all perimetric examinations in which the result is to be reported, otherwise the chart reproduced conveys no meaning and is valueless, for if the same field be taken by another observer, a different result will be obtained, and if taken by a third observer, still another result is reached, dependent not on the operator but on the amount of light obtainable in his office and the cleanliness of his discs. Taking into consideration the different theories of the color sense, whether they be true or not, no color can be recognized in a dark room, and the restricted color field as shown to-day, is not so much dependent, to my mind, on the retina not being able to perceive the various colors on account of the colors themselves, as it is dependent on the degree of luminosity. A bit of card board of any color run in from the periphery is recognized by the patient, not so much by the action that the individual color plays on the retina, as the rays of light reflected

from it. The darker the color the more rays absorbed, and the restriction of the field for white even, as shown in hysteria, may be dependent on a dirty or mottled peripheral disc, rather than retinal inertia.

While the contraction on the nasal side is tacitly understood to be dependent on the physiognomy, Fuchs, (page 23, fig. 13, showing the projections of the visual field), says that the anterior border of the sensitive portion of the retina extends further forward on the nasal side than on the temporal, in comparison as 90° is to 65°. This is not so. Both sides are equal, there being no difference in the retina of either side, it being histologically the same, and this is one of the many errors which have grown from the results of the present method of perimetrical observation. To the physiognomy most of the blame can be laid for the contraction of the nasal side, and the balance of the blame to that instrument, based on hypothesis alone, the perimeter; an instrument devised for the exploration of the field of vision, which, instead of endeavoring to enlarge the nasal contraction caused by the physiognomy, further increased it by bringing its objective point inside of the point of infinity to 15 inches, whence all rays that enter the eye must enter as divergent rays, thereby causing a restriction of the whole field to the extent of 0.57′. But not satisfied with this, it further constricts the nasal field by at least 6° 48′ by the compulsory convergence dependent on the accomodation for so near a point, and adds the 6° 48′ substracted from the nasal to the temporal field, which has already an error of 6° 48′ to its credit by the convergence which constitutes an error of 13° 36′. I ask you if this is not worth considering. This is easily demonstrated by holding the finger $10\frac{1}{2}$ inches from the face and then fixing the eye on a distance 20 feet beyond it, when two fingers will be seen, the distance between them representing the extent of the field contracted by the convergence to so near a point. In other words, any instrument that shows a contraction of the normal field of vision for the form or color sense is wrong, for no such contraction exists. Granting these objections to be true, and they are, I say without any hesitancy that the perimeter is not only unscientific

and impracticable; that it is not only improbable but impossible, its total being nothing but approximated guess work, its results being not only valueless but meaningless as well.

Recognizing that the unsatisfactory statements of the patient materially influence the result, that there must be an approximate allowance made in each case for the constantly varying physiognomy, and that the time and inconvenience necessary for a conscientious examination of the visual field were decided objections, I endeavored to construct or combine a number of prisms or cones which would transmit or refract rays of light to those parts of the retina corresponding to the degrees in the present perimetrical chart. To make the results correspond as nearly as possible to the present accepted ellipsoid, color and form fields, as the perimeter gives them to us, it would be necessary to have prisms of different strengths combined in a whole. On this principle I had an octagon ground. Recognizing later that this shape would be expensive and the results inaccurate, I constructed a cone-shaped hexagon, having all prisms of the same strength. Thus a cone-shaped hexagon with its sides cut at an angle of 73° 40′ made of flint glass with an index of refraction of 1.584, will throw six lights at the same time on the retina at an angle corresponding to 70° as taken by the perimeter. That this is capable of mathematical demonstration the following formulas show:

Formula for a prism in the position of minimum deviation.

Let n = index of refraction
A = angle of prism
d = min. deviation

To find d; $\sin \frac{1}{2}(A+d) = n \sin \frac{1}{2} A$

To find A; $\cot \frac{1}{2} A = \frac{n - \cos \frac{1}{2} d}{\sin \frac{1}{2} d}$

Formula for a prism when the incident ray is perpendicular to the second face of the prism.

Let n = index of refraction
A = angle of prism
d = deviation

Given A to find d.

$$\begin{cases} \sin r = \frac{\sin A}{n} \\ r' = A - r \\ \sin d = n \sin r' \end{cases}$$

Given d to find A.

$$\begin{cases} \sin r' = \frac{\sin d}{n} \\ \cot r = \frac{n - \cos r'}{\sin r'} \\ A = r' + r \end{cases}$$

Example: n = 1.584, A = 75°, to find d.

log sin A	9.9849	
log n	0.1998	
log sin r	9.7851	r = 37° 34′.
r′ = 75°—37° 34′ = 37° 26′		
log sin r′	9.7838	
log n	0.1998	
log sin d	9.9836	d = 74° 21′.

Example: n = 1.584, d = 75° to find A.

log sin d	9.9849	
log n	0.1998	
sin r′	9.7851,	r′ = 37° 34′
	n = 1.5840	
Natural cos r′	= 0.7926	
n—cos r′	= 0.7914—log 0.7914	9.8984
	log sin r′	0.7851
r = 37° 37′	log cot r	0.1133

A = 37° 34′ + 37° 37′ = 75° 11′.

The highest degree prisms used in the prismatic perimeter is one of 73° 40′ which under all conditions regardless of the physiognomy, transmits images to 70° on the retina, not counting the distortion of the image which is equal to five degrees more. So if a patient sees six lights with this combination of prisms, it is *prima facie* evidence, after a slight rotation of the hexagon or without rotation of the cone, that not only the field of vision is normal at the angle of 75° for all meridians, but also that the color sense for red is normal at that angle. A row of incandescent lights, green, blue, yellow, or any of the complementary colors, can be successively turned on and the field and color sense for that angle established decisively in an instant. Plates in text-books showing 55° to 60° to be the normal for white of the superior, inferior and temporal portions of the retina are misleading, and certainly are not correct any more than the plates showing restricted color field are. See Fig. I.

The prismatic perimeter has demonstrated satisfactorily that there is no restriction of the normal field for any color or any object. The present restriction is not due to the inability of the retina to receive impressions at its periphery, but entirely to outside influences—the physiognomy, and the crude instrument by which the field is taken. All colors are recognizable with the prismatic perimeter at the periphery of the field as well as inside of the color field, as at present recognized. That

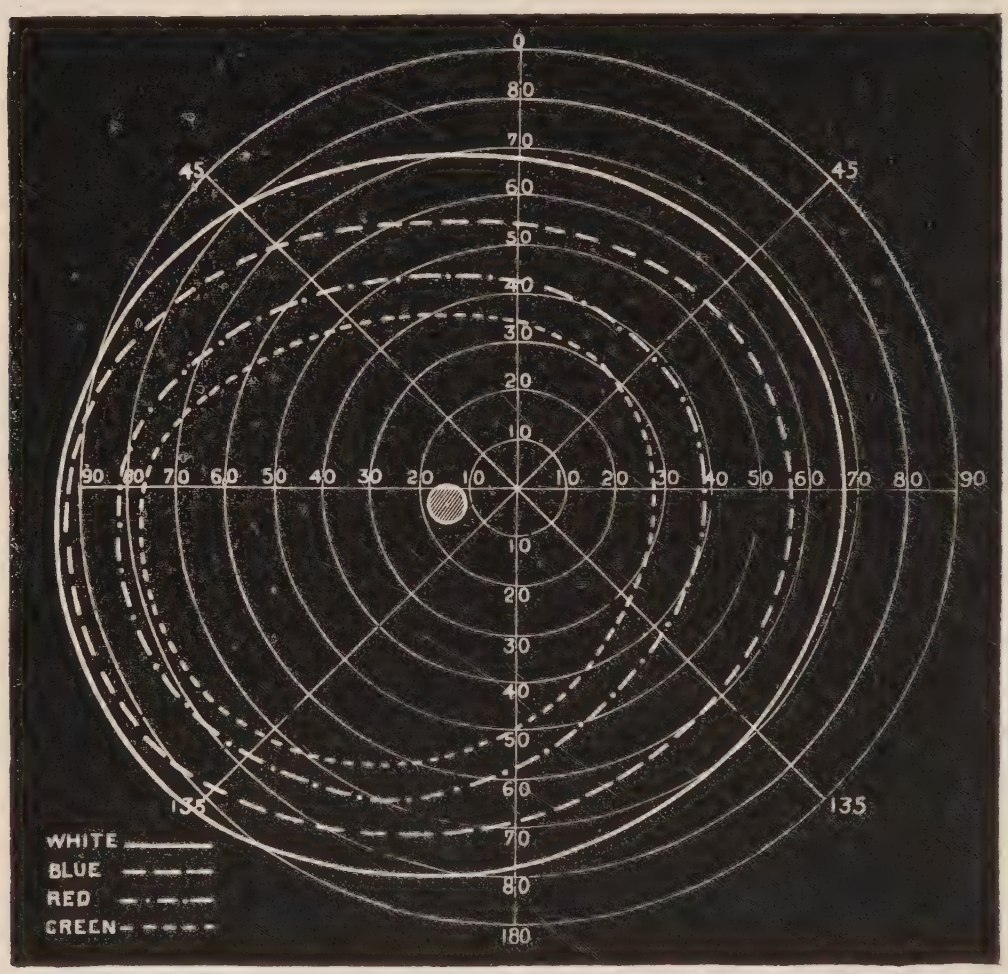

Fig. I. Chart of Field of Vision (Landolt.) This represents an inaccurate delineation of the color fields by the perimeter.

it is not so plainly seen at the periphery is partially due to the fact that to deflect an image to the 70° angle on the retina, the rays cannot pass through the angle of minimum deviation of the prism and thus transmit a clear image of the object, but instead a distorted one is transmitted to the retina. If it were possible to throw an image on the periphery which was not

distorted it would be very distinctly seen. That this is a fact is proven by directing the visual axis to one of the false images on the periphery, which necessarily causes it to fall on the macula. If its indistinctness on the periphery were due to the insensibility of the retina, it should be distinctly seen when focused on the macula, which it is not, showing that its indistinctness is due to distortion alone. If the 73° 40′ hexagon or the same degree cone, be placed before the patient's eye, the other being covered, and he can see no light, there is a concentric contraction inside of the 70° angle which indicates optic atrophy or *retinitis pigmentosa.* In glaucoma, corresponding to the nasal contraction, there will be but three lights seen, or a broken ring of light with the cone. If one is missing, some localized lesion exists, and if the color is not recognized, the pathological condition is readily understood. The lights are thrown on the retina in the shape of a hexagon, with a band of colored light connecting each individual light at different degrees of deviation, according to the strength of the prism or of the cone used.

That light can be thrown on the retina in a practical way at successive angles of 70°, 60°, 50°, 40°, 30°, 20°, and 10° is demonstrated by the above formulas.

The following shows the angles of the prisms required to give the necessary deviation when made from flint glass, with an index refraction of 1.584:

Given deviation.....	70°	60°	50°	40°	30°	20°	10°
Angle of prism or cone required.....	73°40′	69°21′	63°13′	55°8′	44°50′	32°2′	16°49′

The error decreases in ratio to the strength of the prism.

The hexagon has the advantage over the cone that it not only tells us of the lesion, but also the extent of it. Suppose in detached retina, putting on the hexagon, and as an illustration, say one light is missing; the hexagon should be slightly rotated until the patient sees the missing light, and the point of its reappearance noted as well as the site of the disappearance of the one following it, which would give us positive evidence of the extent of the detachment for future reference.

As is well known, the objection to the use of high degree prisms in ocular work has, heretofore, been the prismatic spectrum. This spectrum, which has been previously an objection, is, in the prismatic perimeter, used to an advantage, for, in the higher degrees, it is sufficiently pronounced to be used as a color test, it having all the necessary colors, and I have demonstrated in the clinic of the Pittsburg Eye and Ear Hospital that the individual colors are recognized by the patient.

It is not necessary to dilate on its efficiency as a confusion test in simulated blindness. If a patient is made to see six lights, the angle of which may be changed at the will of the operator, he naturally will not know what to expect in subsequent examinations. The prisms must be accurately ground, all the six faces of the hexagon being alike and of the same angle so that we may have undisputed facts from which we can express results found for the report of cases. In the higher degree prisms, the rays striking the apex of the prism are lost, being deflected out of the prism before they reach the cornea, so that during the examination when the prism is held close to the eye, the patient sees a semi-opaque circle or diffusion of dispersed and reflected rays making their exit, which, contrary to the natural supposition that it would annoy and confuse the patient, is really a valuable adjunct instead of an objection, for it is these rays that exclude all other objects, such as furniture, hangings, etc., that have a lesser light stimulus than the objective light used in the examination, thus cutting off many multiple objects that would only tend to distract the patient, much the same as the moving disc on the old perimeter does, and would make the practical application of the prismatic perimeter *nil.*

The prisms are cemented to a piece of plain glass and enclosed in a brass tube with a dead black finish. This has been done for the protection of the prism, for convenience of handling and to overcome the blepharspasm caused by the closeness of the prism to the eye. The prism is set in, about an eighth of an inch, permitting the rim of the tube to encircle the eye and thus hold the lids open. The tube is marked on the end containing the prism with degrees similar to the trial frame,

so that when it is placed to the patient's eye with the 90° mark on the tube corresponding to the vertical meridian of the eye, we know exactly what position the lights are in on the retina, and if one is missing we can tell at once what meridian of the field is affected and it may be expressed in type instead of unreliable charts.

For instance, say the tube containing the 73° 40′ prism is held to the patient's eye with the 90° mark on the tube corresponding to the vertical meridian and the patient sees no lights, then the tube containing the prism cut at an angle of 69° 21′ is held in the same position with the same result. It could be expressed thus: Prismatic perimeter shows concentric contraction for 70° and 60°. If the 30° or 40° be applied and a single light be lost, its meridian is easily found and can be easily expressed, meridian 135° degree 35° scotoma for red, or the result can be drawn on the regular chart and still have the added advantage over the old perimeter because of the reader knowing

First, that it was taken with a regulation light stimulus;

Second, that the physiognomy did not enter into it;

Third, that the position of the patient did not enter into it;

Fourth, that the 21° 21′ error dependent on the accommodation and convergence does not exist;

Fifth, that the accommodation was relaxed, which lessens any effect of any existing ametropia.

A divergence of the rays on account of being inside of infinity is overcome by placing a convex lens in the other end of the tube, which causes the rays to become parallel and also protects the prism from dust, etc. The fact that was of paramount importance in the conception and construction of this instrument, was not only the securing a proper combination of prisms with the proper powers of deviation but the practical application of the principle. The possibility that a thing might be otherwise, is no proof whatever that it is not so. The test of a theory is first, that it shall not be directly contradicted by any facts; and secondly, that the preponderance of probabilities in its favor shall be sufficiently great. But as long as there remains any negative evidence it remains a theory. That

these rays do strike the retina at the angle declared has been proven by mathematical deduction with no negative results, and consequently is a produced fact of practical application, and as such is presented. Fig. II.

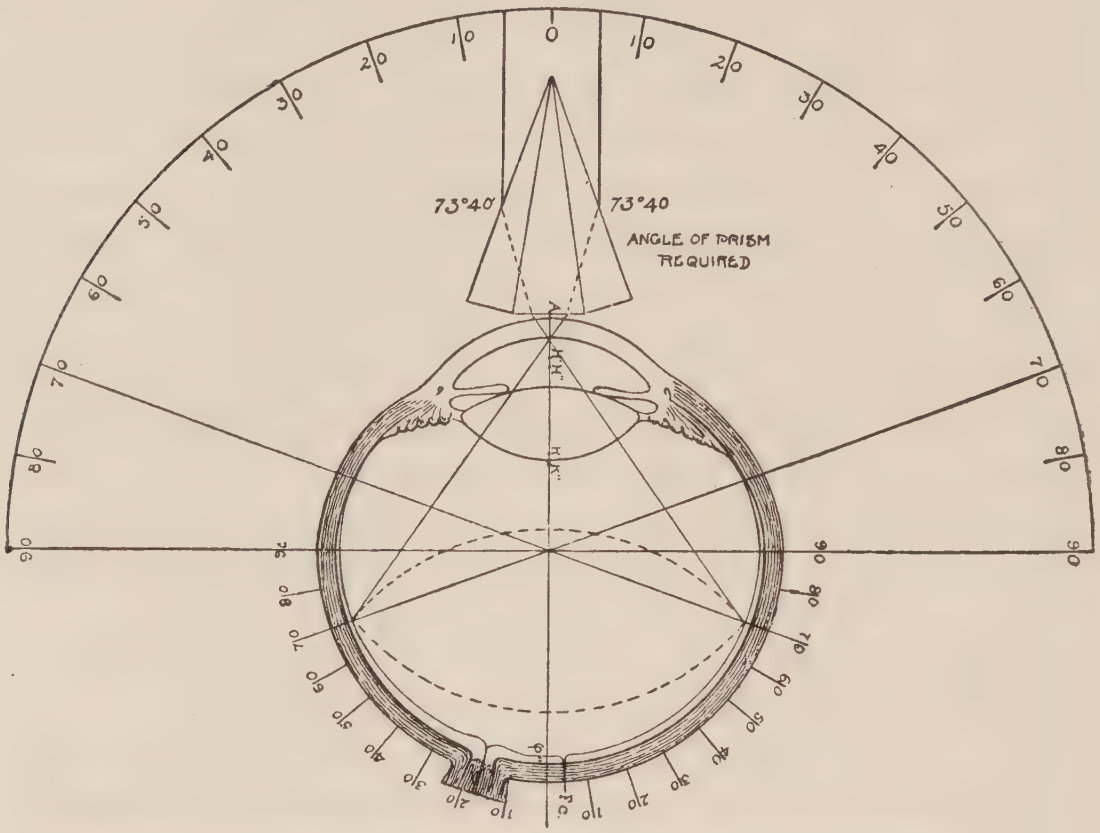

Fig. II. Illustrating the *modus operandi* of the prismatic perimeter.

To recapitulate, the objections to the old perimeter are :

First, the projection being too high, which alters the whole field ;

Second, the objective disc being inside of infinity causes a contraction of the whole field, 57′ ;

Third, that through the compulsory convergence dependent on the accommodation for so near a point arises an error of 21° 21′ ;

Fourth, the restrained position of the patient ;

Fifth, the personal equation of the patient ;

Sixth, the time required for examination ;

Seventh, the uncertain or unknown light stimuli used, which in itself invalidates the result ;

Eighth, the results are of no scientific value being devoid of meaning

The advantages of the prismatic perimeter are:

First, a standard light stimulus for all observers;

Second, that the form and color sense can be taken at one time;

Third, that the whole field can be taken in a few minutes;

Fourth, that the results are absolutely reliable and indisputable;

Fifth, that it is a new confusion test for simulated blindness.

EXTERNAL HEMORRHOIDS.

By LEWIS H. ADLER, JR., M. D.,

PROFESSOR OF DISEASES OF THE RECTUM, PHILADELPHIA POLYCLINIC; SURGEON TO THE CHARITY HOSPITAL, AND TO THE OUT-PATIENT DEPARTMENT OF THE EPISCOPAL HOSPITAL, PHILADELPHIA.

The classification of hemorrhoids into internal and external depends not only on the fact that one is formed within and the other without the cavity of the rectum, but also on the anatomical relations of the majority of such tumors to the internal and external hemorrhoidal veins respectively.[1]

External hemorrhoids are divided into (a) the venous, (b) the cutaneous, and (c) the compound.

(a) The *venous* variety occurs in three forms: (1) as a marked varicose condition of the external hemorrhoidal plexus; (2) a thrombosis of this plexus; and (3) as a clot of extravasated blood due to a rupture of a varicose vessel.[2]

(b) The *cutaneous* pile consists of a hypertrophy of the skin surrounding the anus. It frequently is the result of a venous pile, a fold of skin being left after the clot has been removed, either by absorption or operation. When uninflamed it occasions no great inconvenience, but when aggravated by improper diet, irregular habits, uncleanliness, etc., it veritably causes the patient, as stated by the Messrs. Allingham (*Diseases of the Rectum*, Fifth Edition, London, 1888, page 83) an amount ef suffering quite disproportionate to the pathological appearances. Dr. J. M. Mathews (*Diseases of the Rectum, Anus*,

[1] A thorough and most instructive article bearing upon the subject of "external piles and their relation to the external hemorrhoidal veins," by Walter J. Otis, M. D., Surgeon to the Department for Disease of the Rectum, Boston Dispensary, is to be found in a pamphlet reprinted from the February, 1895, issue of the *American Journal of Medical Sciences*.

[2] The existence of this form of hemorrhoid is denied by some authorities, but I have seen a sufficient number of such cases to warrant the classification given.

and Sigmoid Flexure, New York, 1892, page 96) states, that in his opinion the cutaneous pile is not an excrescence, as some authorities think, but an enlargement of the superfluous tags of skin sometimes found around the anus.

(c) The *compound external* pile is a term that should be restricted to those tumors which are frequently found, and justify the separation into a distinct class, in which the hemorrhoid is largely external but is also partly internal. Dr. Charles B. Ball (*The Rectum and Anus, Their Diseases and Treatment*, Philadelphia, 1887, page 227); applies this name to a form of external pile which is found to consist principally of connective tissue, and which contains several thrombosed veins of considerable size, instead of one central cavity, as in the common variety of venous hemorrhoid. I believe that the form I have described, and not the pile described by Dr. Ball, should be understood when the term compound external hemorrhoid is employed.

Symtomatology: — Unless inflamed, external hemorrhoids (with the exception of the thrombotic variety) give rise to no pain, and but slight inconvenience. Any annoyance occasioned is largely due to the mental effect upon the patient that something abnormal exists about the rectum. In the acute stage a thrombotic pile is always attended by some pain (due probably to distension), and considerable constitutional disturbance.

All varieties of external piles, when inflamed, are accompanied by pain; spasmodic contraction of the levator ani and the sphincter muscles; a disagreeable sensation as if there were a foreign body about the rectum, which induces more or less tenesmus and straining, as well as a feeling that the bowels must be evacuated; finally, the general health is affected, and reflex symptoms are often present.

The treatment of external hemorrhoids embraces more than mere attention to the local condition. Permanent relief from the trouble or the most satisfactory results are obtained from a consideration of the causes inducing the malady; and the success attending any plan of treatment depends as much upon the correction or removal of these factors as it does upon the local treatment.

This fact being borne in mind, we may profitably devote a few moments to the treatment and correction of those systemic or local conditions which frequently are the predisposing, if not the exciting causes of hemorrhoids.

(a) *Chronic constipation.*—The first step to take in correcting this condition is to establish regularity in the time of going to the closet. Patients should be directed to go at the same hour daily, whether the desire exists or not. The morning hour will usually prove the best, either before or after breakfast. Physical exercise is another important factor in correcting costiveness. Certain articles of food often aid in the removal of this affection, such as the fruits, of which prunes, apples and oranges are the best.

Medically, the treatment of constipation covers a vast range of remedies. No one plan can be outlined that will benefit all, or even the majority of persons so afflicted. Some authorities are strongly opposed to the continual use of laxatives in these cases; and I do not endorse their employment, except where other measures fail, and then only advise the use of the mildest remedy, and in the smallest possible dose to effect the desired result. Dr. Charles B. Kelsey (*Diseases of the Rectum*, Fourth Edition, 1893, p. 444) likens the habit of employing such drugs to the "habit of constantly whipping a horse—he soon expects to be whipped before he goes." Granting this to be so, I take it that some animals are of such a nature that to whip them is essential; in all events, I am sure that the continued use of laxatives is necessary in some cases of obstinate constipation. I am aware that many persons abuse the use of cathartics and laxatives, but this fact offers no valid objection to their employment under the direction of the physician when other means have been fruitlessly tried.

Sometimes a tumblerful of hot or cold water taken before breakfast will nicely regulate the bowels. If this should fail, the mineral waters may be tried, of which the Hunyadi Janos is very excellent. A wineglassful of this, followed by a like amount of hot water, is the dose which I employ.

Fluid extract of cascara sagrada, with equal parts of glycerin, in doses of 30 to 60 drops at bedtime, will often prove useful.

I am indebted to Dr. Henry Lovett of Langhorn, Pa. for the suggestion to use glycerin with the cascara, and I have found the combination much more efficient than the cascara alone. Furthermore, I am inclined to view the prescription as not only a relief, but also as a cure for chronic constipation.

Among other prescriptions which I have found beneficial are the following:

℞ Extract of nux vomica, . . . 6 grains.
Extract of belladonna, } . . 2 grains of each.
Extract of physostigma, }
Mix. Make 24 pills.
Dose:—One pill before meals.

℞ Extract of cascara sagrada, . . 12 grains.
Extract of nux vomica, . . 3 grains.
Extract of belladonna, } . . 2 grains of each.
Resin of podophyllum, }
Mix. Make 12 pills.
Dose:—One to two pills at bedtime.

Functional Derangement of the Liver.—If dependent upon a gouty or lithic acid diathesis the treatment must be directed towards relieving these conditions. In all cases the diet should be carefully regulated. Meat should be taken in small quantities; rich gravies, sauces and pastry are to be avoided, as well as all sweets. The use of alcohol should be restricted. All wines, except claret, are particularly objectionable. Considerable benefit is to be derived from the use of aperient medicines, of which the salines are the best, as sodium phosphate, or the sulfate, or the natural mineral waters. In some cases I have seen marked improvement result from the use of mercury in some form, such as fractional doses of calomel, or blue mass in 5 or 10 grain doses. Ammonium chlorid, in 10 to 15 grain doses, four times daily, is a useful remedy in hepatic congestion. Nitro-hydrochloric acid in combination with nux vomica and compound tincture of gentian often proves of value.

℞ Strong nitro-hydrochloric acid,. ½ fluid dram.
Tincture of nux vomica, . . ½ fluid ounce.
Compound tincture of gentian, . ½ fluid ounce.
Dose:—25 drops in a wineglassful of water after meals.

Turkish baths are beneficial when taken once or twice a week. Massage is of decided advantage. Lithium salts are indicated, either in the form of the effervescing citrate, or the waters of some of the many mineral springs. In some cases the wine of colchicum is an efficient remedy, in doses of 5 to 20 minims.

Obstructive disorders of the heart and diseases of the lungs accompanied by destruction of the capillary vessels are rather subordinate factors in the causation of piles, but, nevertheless, demand consideration and treatment when associated with the malady under discussion.

Other Diseases.—Polypi; irritable ulcer of the rectum, more commonly called a fissure; rectal stricture; phymosis; adherent prepuce; stone in the bladder; enlarged prostate; urethral stricture; abnormal positions of the uterus, and growths or other diseases of that organ, as well as of its appendages, must receive attention before we can hope to deal satisfactorily with the hemorrhoids.

Errors in diet and mode of living should likewise receive proper attention.

The *local treatment* of external hemorrhoids may be divided into the operative and the non-operative. The first is the preferable plan in nearly all instances. If, however, the patient refuses to submit to the slight operation necessary, recourse must be had to local applications during the acute inflammatory stage.

The *operative plan*, by which method only may we expect a radical cure, may be accomplished by (a) simple incision, by (b) excision, or by (c) excision and primary suture of the cutaneous edges of the resulting wound.

(a) *Simple Incision.*—This procedure is applicable only to the venous form excluding the simple varicose variety, which latter, unless inflamed, hardly ever requires operative interference. It is seldom, however, that the surgeon is consulted about external piles, unless they be inflamed or associated with internal hemorrhoids.

The operation of incision consists in shaving the hair; in cleansing the parts thoroughly, and rendering them as aseptic

as possible; then anesthetizing the tumor by means of a hypodermatic injection of a 4 per cent. solution of the hydrochlorate of cocaine (10 minims usually suffice), or by a spray of ethyl chloride; or by freezing the pile with salt and ice, and then catching the tumor firmly between the thumb and finger of the left hand and transfixing its base in the direction of the radiating folds of the anus with a curved bistory, and cutting out; at the same time by gentle pressure the clot or clots may be extruded. The subsequent treatment consists in dusting iodoform, or aristol and boric acid equal parts, or iodol, freely over the raw surface, being careful to see that the same is finely powdered and not lumpy; then, in applying a piece of lint soaked in a 5 per cent. carbolized oil into the bottom of the wound, to prevent the sac refilling with blood and to enable healing to occur from below, instead of running the risk of a superficial fistula forming by the edges of the wound only uniting.

The patient should be advised to keep quiet for a few days, or, at least, not to take any active exercise. It takes about ten days for the healing process to be completed, and usually, the relief from pain is immediate and complete.

(b) *Excision* is the form of treatment most generally employed for the cure of all the various forms of external hemorrhoids. The technique is similar to that described for incision with the exception that the pile is grasped by some suitable instrument, such as a hæmostat, and the tumor is removed in its entirety by means of a pair of scissors, curved on the flat. In some instances a small artery may require a ligature. If the operation be properly performed there will be none of the dangers (so frequently mentioned in text-books) of the formation of a stricture. Iodoform is freely dusted over the raw surface, a firm pad of gauze and cotton and a T-bandage complete the dressing.

(c) *Excision Combined with Primary Suture of the Resulting Wound.*—The essential difference between this operation and the one just described consists in the close apposition of the wound by carefully buried silk-worm gut sutures. The following points may, however, bear emphasis: The tumor is anes-

thetized, and then grasped on either side of its long axis by hemostats. The necessary number of sutures are then inserted, care being taken to place them beneath the base of the pile, so that when it is excised the stitches will not show in the wound, but be buried. This plan of dealing with external hemorrhoids has proven most satisfactory, not alone to me, but likewise to the patients. They get well much quicker and suffer less annoyance than when the parts are left to granulate. The sutures are taken out on the third or fourth day. In any stout person I am in the habit of taking out the sutures within 48 hours, for fear of the tension producing a fistulous track. I have operated on 22 persons by this procedure, and have had primary union in all but two instances. Operating in this manner also prevents hemorrhage.

Non-operative or Palliative Treatment consists primarily in keeping the parts thoroughly cleansed by bathing with warm water and castile soap.

A most valuable and soothing lotion for use during the acute inflammatory stage is one advised by the Messrs. Allingham (Op. cit., p. 84).

℞ Strong subacetate of lead solution, 1 fluid ounce.
Tincture of opium, . . ½ fluid ounce.

Mix. One teaspoonful of the lotion to be mixed with one wineglassful of milk, and to be applied frequently to the anus.

A formula which I have found very useful is as follows:

℞ Fluid extract hamamelis, . 1 fluid ounce.
Fluid extract hydrastis, } ½ fluid ounce of each.
Compound tincture benzoin, }
Tincture of belladonna, . 1 fluid dram.
Carbolized olive oil (5 per cent. carbolic acid) sufficient to make . . . 3 fluid ounces.

Mix.

Sig.:—Apply often to the parts.

Heat or cold applications are often of service.

Dr. Ball (Op. cit., p. 230) considers the local application of a mixture of extract of belladonna and glycerin smeared over the anus, and followed by a warm stupe, the best palliative

treatment for external hemorrhoids. In addition the bowels should be fully moved, and a light, easily digested diet, with rest in in bed, should be prescribed.

Any of these remedies will usually cause the inflammation to subside within a few days; but usually a thickened tag of skin is left, which is liable at any time on the slightest provocation to become inflamed.

REPORT OF MEDICAL REGISTRATION IN CUMBERLAND COUNTY.

BY R. LOWRY SIBBET, M. D.,

MEDICAL INSPECTOR TO THE STATE BOARD OF HEALTH.

Mr. President: It occurred to me several months ago that I might with propriety, being Corresponding Secretary of the Cumberland County Medical Society, ask the Society to inquire into this subject and to report. A committee was appointed and a report made. But that no mistakes might be made I called upon the President Judge of our County, Hon. Ed. W. Biddle, who suggested that we petition the court in relation to the matter, and at the same time named Geo. Ed. Mills, Esq., an active member of the bar, as a suitable person to prepare a petition. He further suggested that I should sign the petition and get several others to do so. The petition reads as follows:

To the Hon. Ed. W. Biddle, President Judge of the Court of Common Pleas of Cumberland County:

The petition of the undersigned respectfully represents that your petitioners are residents of Cumberland County and duly authorized and qualified to practice medicine and surgery under the laws of this Commonwealth, and that they are interested both as citizens and as qualified practitioners of medicine and surgery in seeing that the laws relating to their profession are faithfully administered and enforced both as a protection to the people at large and also to prevent persons without the qualifications required by law from being regarded as legally qualified practitioners of medicine and surgery.

Your petitioners further represent that by Acts of Assembly of March 24, 1879, of June 8, 1881, and May 18, 1893, it is made the duty of the prothonotaries of the various counties of this Commonwealth to keep in and among the records of their office a book of suitable size to be known as the Medical Register of the county, the persons who shall be registered in said book with their qualifications being described and set out at large in the various acts referred to above.

Your petitioners further represent that the said medical register for Cumberland County is not kept in the manner provided by law, by reasons whereof the names of many persons are erroneously and mistakenly entered, whereby the said book, which is a public record and intended for the use and information of the people, is rendered useless and fraudulent, and that the following are the principal errors and mistakes in the same.

a. Persons registered without the degree of M. D. for ten years of practice.

b. Persons registered without their diplomas properly indorsed.

c. Persons registered who are non-residents.

d. Persons registered who are dentists.

e. Persons registered who are veterinary surgeons.

f. Persons registered who are itinerants.

g. Persons registered who are registered in other counties of the State and who are not sojourners.

Your petitioners further represent that it is made the duty of the Judges of the several courts, as often as they may deem it expedient, to ascertain whether the books, files, indexes and papers of the respective offices are kept as the law contemplates, and, if neglect or deficiency appear, to direct the same to be performed by the proper officer.

Your petitioners, therefore, pray your Honor to appoint some suitable person or persons to investigate the manner of the keeping of the medical register for Cumberland County, and report the same to your Honor so that the mistakes, if any, may be rectified, or to make such further order as to your Honor seems best in the premises.

And they will ever pray, etc.

JOHN W. BOWMAN,
J. C. DAVIS,
R. L. SIBBET,
P. R. KOONS,
WM. E. SWILER,
JOHN J. KOSER.

Cumberland County ss.:

Before me, the subscriber, personally appeared R. L. Sibbet, one of the above petitioners, who being duly sworn according to law deposes and says that the foregoing statements are true to the best of his knowledge and belief.

Sworn and subscribed the 12th day of November, 1895

D. K. ANGLE,
Deputy Clerk of the Courts.

Order of Court.

"And now November 13, 1895, Fillmore Maust, W. A. Kramer, George Edward Mills, Esqrs., are appointed a committee with the request

that they investigate the matters alleged in within petition and make report to the Court."

By the Court,

E. W. BIDDLE, P. J.

The Legal Committee thus constituted, cheerfully accepted the assistance of the medical committee and reported the following summary of facts:

"*To the Hon. Ed. W. Biddle, President Judge of the Courts of Cumberland County:*

"Your committee have the honor, after a careful examination of the medical register of Cumberland County, to report that 210 persons have registered since 1881. That 41 of these have died in the County; that 81 have removed from the County, leaving 88 resident practitioners, 20 of whom are believed to be illegally registered, and 7 who are practicing without the degree of Doctor of Medicine."

In conclusion, Mr. President, may we not hope that this exposure of registration may lead the profession in other Counties to see that registration may not be made a fraudulent and mercenary business. Cumberland County shows, 1st, about 25 per cent of imperfect and fraudulent registration by the prothonotaries; 2d, that there is a strong tendency in our profession to evade the requirements of the law; and 3d, that the profession has a duty to perform in each County of the State, if it would save its own self-respect and dignity.

THE LOCAL ISSUE OF SANITARY REFORMS.

By WILLIAM P. MUNN, M.D.,

HEALTH COMMISSIONER OF THE CITY OF DENVER, MEMBER OF THE COLORADO STATE BOARD OF HEALTH, MEMBER OF THE AMERICAN PUBLIC HEALTH ASSOCIATION, PROFESSOR OF GENITO-URINARY DISEASES AND CLINICAL SURGERY IN THE UNIVERSITY OF DENVER, ETC.

In 1888, as Chairman of its Standing Committee on "Health and Disease," I had the honor of submitting to the Allegheny County Medical Society, an outline sketch of certain sanitary reforms at that time necessary in the cities of Pittsburg and Allegheny, but especially in Allegheny, where I then resided.

I remember very distinctly the comment made upon my report by our esteemed colleague, Dr. J. D. Thomas, of the South Side, which was, in effect, that my propositions were correct, that sanitary reform was urgent, but that such a scheme was impracticable in that community because of the political influences which dominated the two cities, and which, from both interest and ignorance, would veto any propositions such as I then suggested for sanitary improvement.

In the record of the Transactions of the Society for January, 1896, I find that it has again considered the necessity for certain sanitary measures, and that Dr. Thomas, whose sympathies are on the right side, and whose convictions are always forcibly expressed, again states that the local political conditions are such that reform is impossible. It is plainly evident to me, therefore, that as there has been but little change in the local conditions in eight years, and that if a change could be readily brought about, the unanimous sentiment of the profession would have accomplished it in that time, that a majority of the medical profession of Allegheny County must agree with

the opinion expressed by Dr. Thomas. Their inertia is the passive expression of their belief—a belief which he has voiced in words readily understood.

Since I have resided in Colorado, an opportunity has been afforded me to put into practice some of the propositions as to sanitary methods which I advanced before the County Society in the report to which I have already referred. These methods, combined with other favoring circumstances, have had a result which, to me, has been most convincing of their efficiency, and the figures expressing this result should, in my opinion, prove a most convincing argument to others.

In 1890, Denver was not a healthy city; typhoid fever and diphtheria were as prevalent there as they were, and still are, in the cities of Pittsburg and Allegheny. The sanitary administration had been lax during a number of years, and disease prevalence had come to be regarded as the normal condition. Favorable natural conditions had been relied upon to keep the city healthy without the aid of rational, well-directed sanitary effort, and the result was the same there as it must be in any community willing to depend solely on natural conditions for proper sanitation.

In the spring of 1891, sanitary reforms were inaugurated in Denver, and it was my privilege to be associated with, and to succeed, the man who inspired and carried them on. The reforms were largely in the line of systematic scientific study of the distribution of disease in the city, and well-directed, energetic effort at destruction of the special causes which contributed to each disease. It is not necessary that I should go into detail as to each item of work done. The results speak for themselves, and I present them as succinctly as possible in the table on the following page.

These figures show, as plainly as figures can, that definite sanitary effort is attended by definite and very desirable results; we have a death rate reduced in five years about 50 per cent; we have an annual saving of human life amounting to practically 1,000 each year, or a money saving (if each life be estimated as worth $1,000 to the community) of $1,000,000 per year.

DEATHS IN DENVER

from all causes and from the principal preventable diseases during five years preceding, and five years following, sanitary reform in 1891 :

Year.	Total deaths from all causes.	Rate per 1000 per annum.	Population.	Typhoid deaths.	No. per 100,000 per year	Diphtheria deaths.	No. per 100,000 per year	Per ct. of all deaths.
1886	1,119	15.98	70,000					
1887	1,525	19.06	80,000	99	124	80	100	$5\frac{3}{10}$
1888	1,729	20.34	85,000	134	158	120	141	7
1889	1,808	18.83	96,000	188	196	105	109	$5\frac{8}{10}$
1890	2,530	23.71	106,713	287	271	267	252	$10\frac{1}{2}$
1891	2,118	18.59	113,874	99	88	178	158	$8\frac{1}{2}$
1892	1,713	14.28	120,000	64	53	89	74	$5\frac{2}{10}$
1893	1,734	13.87	125,000	71	53	106	85	$6\frac{1}{10}$
1894	1,688	12.06	140,000[1]	55	39	64	46	4
1895	1,626	11.21	145,000	43	30	40	28	$2\frac{1}{2}$

[1] Increase by annexation.

Typhoid fever, a disease which some city officials have publicly stated to be necessarily and always prevalent in the autumn, regardless of local conditions, has had its fatality in in this community reduced from 287 in 1890 to 43 in 1895, and half of the 43 were deaths of persons brought into the city sick with the disease and taken to hospitals. This reduction was coincident with improvement in the water supply of the city in three ways, *viz.:* 1st. The introduction of a new source of supply directly from a mountain stream; 2d. The elimination from the old supply (which was still continued for a large part of the city) of sewage contamination; 3d. The condemnation and abolition of all wells in portions of the city hitherto so supplied—the number of wells abandoned as a result of sanitary condemnation being more than 1,000.

Diphtheria has been reduced in prevalence and fatality something over 85 per cent in the five years, or an actual reduction of diphtheria mortality from 267 in 1890 to 40 in 1895. The methods pursued have been the careful study of the causes acting to produce the disease in each case, and the conditions permitting its spread in any portion of the city. Careful mapping of the city, careful record of all the information possibly obtainable in regard to the family, the patient and the house

in which the disease occurs, careful classification and study of the information so collected; the placarding of the house until all danger of contagion is past; the exclusion from the schools of all persons who live in infected houses; the placing of all infected premises in good sanitary condition; the education of the public as to the dangers of this disease and the methods of value in preventing its spread. These have been some of the methods which have been of avail in reducing the mortality from this cause.

But much of the general reduction of mortality has been in other diseases, and due to the operation of other causes. The general diffusion of accurate information among the people as to correct methods of living, proper sanitation of homes and premises, proper treatment of disease and methods of disease prevention, have an influence in preventing sickness and lessening mortality which must not be underestimated. The health office can contribute to this end by the publication in the daily newspapers of official bulletins, impersonal, of course, dealing with such subjects as the disposal of garbage and kitchen waste, sanitation in the home, the influence of impure water in causing disease and the methods that may be adopted in the household to render impure water innocuous, the prevalence, causation and preventive treatment of diphtheria, scarlet-fever and other contagious diseases, the importance of sanitary plumbing and the principles upon which it is based, the communication of disease by dust, and a hundred other general sanitary subjects which will vary in each community, but which serve the purpose of giving the people definite information upon subjects of deep personal interest to them, and which as well awaken their intelligence to the importance of sanitation and enlist their personal co-operation in the efforts of the health department. In a word, sanitation should be made a public issue just as much as any other division of public service is made a public issue.

But these are mere matters of routine. They are methods which should occur to every active sanitarian engaged in the practical administration of municipal health affairs. I have alluded to them and to their results as shown in my own ex-

perience, simply to demonstrate that the principles which I advanced eight years ago are not the mere vagaries of a theorist, but are the well-established principles which any earnest, energetic and well-informed sanitarian can put into practice in any community where they may be necessary.

The problem facing those who demand scientific sanitation in Pittsburg and Allegheny is the same that faces us in Denver, and the same that faces honest men in every city in this country; it is the inevitable conflict, relentless and never-ending, which the politicians are waging against those who maintain that municipal administration is business and not politics. It is the same intrusion of the hand of the politician, impudent, shameless and red with the blood of the innocents, into the administration of public health affairs, into the home circles, into the public schools, which characterizes local politics in every large city in America.

The politician cannot see why any man who is shrewd enough to manipulate a convention, strong enough to carry his precinct, or sharp enough to consummate a political trade, is not competent to fill any position in the public service to which he may aspire, and upon which his "pull" may give him a "cinch." The politician cannot comprehend that sanitary administration demands special knowledge, special qualifications and special "consecration" to the public service. He cannot understand that he who stands in the way of the enforcement of proper sanitary regulations incurs the moral responsibility for any loss of life that may result from the failure to enforce those necessary regulations. He is blinded by thirst for office and lust for gain, so that he cannot see the results of his infamous trading in those high interests that mean life or death for little children, happiness or sorrow for thousands of home circles, light hearts or broken ones for mothers innumerable. His blood-red hand tears human heart strings, takes the light away forever from homes that were once happy, and stills the childish laughter that is the only joy in life of many a toiling parent. Why cannot honest citizenship rise mightily and send the politician who so degrades the trust reposed in him to his proper abiding place? Why cannot the politician

see himself as others see him, crowned with shame, mantled in dishonor, spurned by all honest men, hated by all good women and shrunken from by all innocent children?

I must crave indulgence and pardon for straying from the beaten path of a plain and impartial consideration of what ought to be a merely scientific communication. My excuse is that the maladministration of sanitary affairs has, in years gone by, touched me personally; those who were near and dear to me have been sacrificed upon the altar of political expediency through inefficiency of sanitary administration, and it is small wonder that my indignation rises high when I think of bright eyes closed and loving hearts stilled by that dread disease, diphtheria, which might have been easily prevented had the simplest methods of prevention known and practiced in almost every city of this country been enforced.

SANITARY ORGANIZATION.

To secure a proper administration of sanitary affairs, it is essential that the organization of the health department shall be upon a basis which will secure intelligent recognition of sanitary necessities, and which will assure the active enforcement of proper measures for the restriction of disease. It is highly improbable that in any community the requisite qualifications for the person upon whom the responsibility of sanitary administration rests will be found in any one who is not a member of the medical profession. Few other men have had the proper training; few other men are able to appreciate the relative importance of the various conditions that confront the sanitarian or devise the proper methods for meeting and mitigating those conditions. The responsible head of a health department then, whatever his title, should be a physician having special qualifications for sanitary work.

The chief end to be obtained is to have an intelligent, active head of the health department, and to have him as free as possible from political control. This is essential in order that he may have perfect liberty of action in appointing his subordinates, and that they may be chosen simply on account of their efficiency. It is a matter of indifference whether a sanitarian or a bacteriologist is a Democrat, Republican or Popu-

list, but it is important that he should be the *best* sanitarian or the *best* bacteriologist that can be gotton for the special line of work he is to do.

People do not choose their doctors because of their political beliefs, and why should the doctor for the community be chosen because of his political, religious or secret society affiliations?

The salary of the medical officer of health is a matter of importance. It is impossible to get a $5,000 man for a $1,500 salary. Business men are well aware of that fact. A bank that wants a responsible man for cashier will not offer him a salary of $100 per month, although there is no doubt that every bank in Christendom could secure a cashier for that salary—if it wanted him. Business houses that pay good salaries get good men and good work in return for those salaries. A competent health officer for a city as large as Pittsburg is worth $5,000 a year; and $4,000 would be none too small a salary for the responsible head of the department in Allegheny. I do not know the salaries now paid in the two cities, but they are less than the figures I have given, and are totally inadequate for the amount and kind of service required from officers filling positions of such responsibility. In Philadelphia the Health Officer draws the shamefully small salary of $2,000 per year, and Philadelphia's sanitary condition bears ample testimony to the fact that she gets no more sanitary service than that for which she pays.

THE LOCAL PROBLEMS.

The local sanitary problems of Pittsburg and Allegheny are largely dependent upon conditions which demand some personal acquaintance for their consideration. I should divide them into three classes:

1.—Those that demand action from the community as a whole.

2.—Those that demand action from the sanitary authorities alone.

3.—Those that demand action from individual citizens in co-operation with the health authorities.

It would take too much time and space to consider fully all of these conditions, and I desire only to give short consideration to three of the problems in the first class which are closely related to each other, and which stand pre-eminent among all others as demanding immediate consideration. They are—

(a) The necessity for a pure water supply.

(b) A proper method of sewage disposal.

(c) Proper sewerage systems for the two cities.

Pittsburg has so many contiguous towns and boroughs that it may be said to practically spread over the whole of Allegheny County. In other words, so far as sanitation is concerned, the city proper and its suburbs for twenty miles practically constitute one indivisible sanitary district. The municipal limits, as set by charter, cannot be for an instant considered as limiting the sanitary conditions, powers or necessities of the city, and in this connection I speak of Pittsburg and Allegheny as one city.

So far as sanitary affairs are concerned, Tarentum, Homestead, McKeesport and Carnegie are as much part and parcel of the city as are any of the older wards, while the disposition of the sewage of Tarentum and Homestead is of even more import to the citizens of Pittsburg and Allegheny than is the sewerage of the "point" district.

The cities draw their water supply from two streams which, within twenty miles, receive the fecal wastes of probably 400,000 people. For many years the medical profession has known that the cities have been suffering from a prolonged epidemic of typhoid fever due to the use by their residents of water which is contaminated to an abominable extent by their own sewage.

When the Monongahela is low the intake of water for the South Side comprises almost all the sewage discharged above it, and there then occurs on the South Side one of those tremendous periodic outbreaks of typhoid fever of a virulent type, which appal by their extent, horrify by their fatality, and yet seem to dull the comprehension by their very frequency.

On the Allegheny side, the truth has been so very evident for years and has become so hackneyed by repetition that the people have come to regard it with passive indifference, and

the politicians have even been emboldened to deny that it is truth. The intake of the Allegheny water system is so situated that it cannot escape contamination by the sewage from the Pittsburg side; that contamination is greater when the river is low; it is concentrated at the end of each summer, and it evidences its presence by a high typhoid death rate during the autumn and the early winter. This condition has recurred for so many years, and the epidemic has been so prolonged, that the people say "what is to be, will be," and the public officials have the assurance to say that the disease is either natural and unavoidable or due entirely to "sewer-gas." Of course, sewer-gas is deleterious, that is admitted; of course, sewer-gas poisoning coincident with typhoid fever poisoning will make the typhoid poison more certainly fatal.

But the existence of other sanitary evils should never for an instant blind the eyes of any one to the fact that typhoid fever is caused by impure water; that it is a disease easily preventable; that every life lost by that disease, through failure to remedy the demonstrable cause, is really a life lost by murder.

The cities can readily obtain a supply of water which is comparatively free from contamination, and which can, with a fair degree of certainty, be kept free from contamination. Mr. Harlow has suggested the Youghiogheny River as such a source; there are probably other available streams equally free from contamination which may be considered.

If such a source were not available, a properly constructed filter plant is quite within the means of Pittsburg, for she is not poverty-stricken. The principles of purification by filtration have now been sufficiently well demonstrated for application to municipal water supplies. A plant for either continuous or intermittent filtration could purify even the water of the Allegheny.

It seems to me plainly evident that much of the difficulty of solving this problem lies (1st) in the separation of municipal authority, and (2d) in the fact that the Director of the Public Works of Pittsburg (if he is correctly quoted in the newspapers) is either phenomenally ignorant of things that he should know, or phenomenally set in his determination to ignore the issues

of life and death until such time as he completes his magnificent (and admirable) schemes which have done so much to beautify Pittsburg and to enrich some of its prominent citizens.

It would be very desirable if time could be given to the elaborate consideration of certain other sanitary propositions necessary and feasible for Pittsburg and Allegheny, but that would involve writing a book, instead of a suggestive and sketchy outline. Here are a few propositions, briefly stated:

Sewage.—The liquid wastes of the cities could be advantageously applied to the fertilization of large tracts of land down the Ohio River. This would obviate much of the contamination of that stream, and would, in time, become a source of financial profit.

Sewerage.—The separate system is very applicable to the topography of western Pennsylvania. Small caliber sanitary sewers can be readily and cheaply constructed in the suburban districts, thus giving the benefits of sanitary drainage at a small expense to those districts where the storm water is already easily carried off by the natural fall, and avoiding the great expense of constructing combined sewers in districts sparsely settled and unable to meet such expense.

Wells.—When a pure general water supply is obtained, all wells should be abolished within the district reached by that supply. I know of one well in Allegheny which was the cause of typhoid fever in every house upon a short street. The widespread prevalence of typhoid fever in both cities shortly after the Johnstown flood was due to the use of well water by thousands who were afraid to drink the river water at that time. They were ignorant of the fact that the contamination of a drinking water is greatest when the river is low; that mud in the water, while offensive, is not unhealthy; and that any special poison from the Johnstown district was swept down and away by the immense volume of water within twelve hours of the occurrence of the "flood."

Contagious Diseases—There is necessity in all cities for more rigid precautions in regard to the isolation of diseases of a contagious nature. Pittsburg was one of the first cities in this country to adopt the plan of daily notification to the schools of

all cases of contagious diseases reported; Allegheny may have adopted the method recently, but I do not know whether it has or not. The placarding of infected houses has recently been enforced in Pittsburg; it was a measure long delayed as I understand it, because of lack of legislative authority. The bacteriologic laboratory offers the greatest opportunities for the suppression of contagion in the future. The spread of diphtheria through the schools can, in the future, be stopped by the systematic examination of the throats of school children. In two localized outbreaks under my own observation during the past year, the centre of infection was found to be in the school, and a careful bacteriologic examination of all the pupils resulted in the discovery and exclusion from school of many children bearing diphtheria germs, and not themselves sick enough to need medical attention. In each instance the localized outbreak ceased promptly upon the enforcement of these measures.

I am perfectly well aware that in writing thus freely in regard to matters sanitary in a community where I no longer reside, I lay myself open to the invitation to mind my own business. That has always been the retort to sanitarians when they have invaded territory upon which unsanitary conditions exist. And sanitary effort is based entirely upon the supposed affirmative reply to the query: "Am I my brother's keeper?" So that if the accusation of interference is made, I can afford to ignore it.

I want to say, however, for fear that some of the things I have said should be misunderstood, that I do not, by implication or otherwise, hold the health officer of Pittsburg responsible for the defective sanitary conditions there existing. The Superintendent of the Bureau of Health is a broad-minded, capable and progressive sanitarian, who appreciates modern discoveries and modern methods; but his hands are tied by vicious legislation, his way is obstructed by old prejudices and legal technicalities, and his desires are thwarted by those in power in other departments whom interest or ignorance prevents from aiding him.

The salvation of Pittsburgh, from a sanitary standpoint, must come from the co-operation of the medical profession of Allegheny County with the health authorities. As an outsider, I think it can be accomplished; as a physician I feel that the best sanitary work cannot be done without the co-operation of the whole medical profession with the health authorities; as a loyal Pittsburger—wherever my home may be for the time—I desire that consummation of sanitary salvation for my native city with a longing that cannot be uttered.

SALOL IN DIARRHEA.

By M. H. FUSSELL, M. D.,

OF PHILADELPHIA.

The writer published in the *Therapeutic Gazette*, August 15, 1892, a paper under the above heading. The purpose of the present note is to confirm the statements made therein.

Frequently one is fascinated by apparently brilliant results of a certain plan of treatment, writes upon it, but soon finds it is not all that can be desired. Such has not been my experience in the case of salol in diarrhea. It is the most useful drug I have tried and I believe its use is founded on correct principles.

Recent writers upon the therapeutics of diarrhea pay but secondary attention to salol; resorcin or naptholin being the favorites. I have comparatively little experience with the latter two drugs; salol has been such a useful remedy in my hands, that I have not felt called upon to use any other drug to any extent. Perhaps the best method of administration of salol is in the mixture I have before suggested, viz:

℞ Salol . . . . . ʒi
Bismuthi subnit. . . . . ʒii
Misturæ cretæ . . q. s. fʒiii

M. S. ʒii every one or two hours until relieved.

This prescription may, of course, be varied as to dose, for instance, give one teaspoonful or less to infants.

The reason for combining salol with the bismuth and chalk is that it has a better effect when mixed with somewhat inert powders, than when given alone. I presume also that the slight astringent action of the bismuth helps to tone up the relaxed intestine and also to relieve any irritation of the mucous membrane, and thus hasten the beneficial result.

The conclusions arrived at in the paper quoted were:

1. Diarrhea due to diatetic errors, and that which is common in adults and infants in summer, is well controlled by the administration of salol, bismuth and chalk.

2. Opium is rarely necessary where salol is used.

3. Salol controls the abdominal pain equally as well as opium.

4. It is perfectly safe, having no bad after effects.

5. It is especially useful in the treatment of the diarrhea of children.

6. It is of no value in dysentery.

7. It constantly corrects the fetor of the stools.

To these conclusions I would now add the following observation: In the diarrhea of typhoid fever it acts almost as a specific. The following case well illustrates this point.

Wm. T., sick for several weeks with a well marked case of typhoid fever. On several occasions during his attack he had outbreaks of furious diarrhea, the stools were large, watery and exhausting. The prompt administration of the mixture I have suggested controlled the diarrhea after two or three doses had been administered.

Another class of cases is the annoying diarrhea which accompanies tuberculosis, either with or without tuberculous enteritis. This class is well illustrated by a case now under my observation.

Mrs. F., consolidation of the left lung with abundance of tubercle bacilli in sputum. She was sent south during the winter, but returned north in much worse condition than when she left. In addition to her other distressing symptoms she suffered from intestinal pain with uncontrollable desire to go to stool immediately after eating. This persisted in spite of careful regulation of the diet, indeed absolutely no food could be taken without giving rise to pain and diarrhea. She was put on the mixture of salol, bismuth and chalk mixture, and at the end of a week could take all sorts of food. She has steadily continued in this good condition now several weeks after the improvement.

In the sixth conclusion in my original paper I stated that the drug is valueless in dysentery. I wish to correct this statement. The mixture will certainly *not* control the attacks of dysentery, but the fetor of the stools and the general abdominal distress are greatly relieved by its administration, and I

always use it in my cases in powder form with bismuth in larger does.

All this may seem like the vaporing of an individual gone drug mad, but if the reader will stop to think that diarrhea is a symptom and a symptom usually due to or accompanied by fermentation of food, or other material in the intestinal canal, and will also remember that salol is broken up into carbolic acid and salicylic acid in the intestine, he will readily see the reason for the writer's faith, even though it is impossible to put before you the mass of cases which have been successfully treated.

It has been stated by some writers that the drug salol is a dangerous remedy. I have never seen the least untoward effect; I use it habitually until the urine has the peculiar green color due to its use, and persist in it until I get the desired effect. I have repeatedly examined the urine and found it did not contain albumen nor casts, but did contain salicylic acid.

One great advantage of the use of the antiseptic treatment is that it does not leave behind it the constipation that follows opium treatment. It has not the dangers of the latter, in that we avoid giving a drug which, while priceless in the proper conditions, unquestionably masks the real condition of the patient. Another danger avoided is the sudden locking of the bowels, retention of ptomaines and poisoning by such retention.

It must always be remembered that the rational treatment of any condition is obtained only through a removal of the cause. Any physician when called to a case in which diarrhea is a symptom, who simply prescribes salol and bismuth or any other combination of drugs, of course falls far short of the proper methods. The cause must always be sought for and removed if possible. The removal, of course, in our cases of diarrhea will often end the trouble and all drugs are needless, but there remains an abundance of cases in which drugs must be used. In these I plead for the use of salol and bismuth to the exclusion of opium. Retain the opium for the cases which have become irritated to such a degree that constant movements of the bowels and distressing pain continue in spite of more rational treatment.

THE THERAPEUTICS OF SCIATICA.

By L. B. KLINE, M. D.,
OF CATAWISSA.

My apology for a brief presentation of this subject to the members of this Society is, that whether viewed from the standpoint of the degree of suffering attendant upon its invasion, or the persistence and obstinacy with which it continues to harass and torture its victim, disqualifying the individual for either physical or intellectual labor, or social enjoyment, together with the unsatisfactory results of the usual routine treatment, characterizes it as of sufficient importance to merit the most diligent thought and earnest consideration of the profession.

I do not propose to enter upon the question of the etiology of this affection, or consider the anatomical changes that may take place. I will, however, briefly call attention to some of the characteristics and complications of this form of neuralgia.

Authors generally look upon this disease as belonging to the neuralgias. Yet, many of them recognize the fact, that it is not always a pure uncomplicated neuralgia.

From careful observation I have reached the conclusion, that in a fair percentage of the cases a rheumatic element or diathesis coexists, augmenting the suffering and delaying convalescence—this condition is, perhaps, more generally present in persons pretty well advanced in life. In corroboration of this view I quote a few reliable authorities.

DaCosta says: "Generally it depends upon the rheumatic diathesis."

Bartholow says: "In most of the cases observed by the authors an attack of lumbago preceded the sciatica."

Anstie says: "There are three very distinct varieties of the disease according to my experience." Of the third variety he remarks: "A third variety of sciatica is the rather uncommon

one, in which inflammation of the tissues around the nerve is the primary affection; these causes are the more influential if the system is predisposed by rheumatism and other cachexia, and by the neuropathic constitution."

As the object of this paper is not a dissertation on the etiology or pathology of the disease, I will proceed at once to some suggestions on the treatment. The primary indication in the line of therapeutics is absolute rest of the affected limb, continued throughout the acute stage, usually rest in the recumbent posture. When rest of the entire body is impracticable the desired object may be partially attained by the use of crutches, in order that all weight or pressure may be removed from the diseased nerve.

In the selection of remedies the etiological factors in the case under treatment should be carefully observed, as the choice must depend largely upon their nature. When dependent upon atmospheric changes, or when a malarial element is present, quinia is indicated. This should be combined with phenacetin or acetanalid, to which may be added Dover's powder or morphia, according to the severity of the symptoms. If the attacks prove severe and prolonged the most reliable form of medication is the use of morphia and atropia administered hypodermically. I have found special advantage in injecting it into the deep structures of the limb, as near the sciatic nerve as possible. This may be repeated daily for several days, or, until the acute symptoms have been subdued.

Where there are evidences of a rheumatic diathesis or complication anti-rheumatic remedies are indicated, and will accomplish beneficial results; among these I depend chiefly upon iodide of potassium and salicylate of sodium, or salol. As a local remedy, in case the attack prove intractable, I recognize blisters as of first importance, and productive of decidedly beneficial results. The application should be frequently repeated at different painful points along the course of the nerve or its branches. The application generally gives immediate relief in the locality where employed; the benefits derived from the treatment, however, are not simply palliative, but curative as

well. In the chronic stage of the disease, arsenic, strychnia and sulphate of zinc are remedial agents that may be resorted to with some degree of success in many cases. In anemia and greatly debilitated constitutions iron and cod-liver oil are valuable adjuvants in the treatment.

There are a number of other pharmaceutical agents that may be indicated, possibly demanded, in certain cases, to meet special symptoms or conditions, which will be suggested to the attending physician as they may be developed.

In conclusion I wish to call attention to a mode of therapy in connection with the treatment of this affection, that has, to my mind, failed to receive the degree of attention by the profession that its value as a remedy merits, viz.: the use of electricity.

I do not recommend its use in the acute stage, as at this time there may be present neuritis, or an inflammatory condition of the tissues around the nerve, contra-indicating its employment; but where the chronic stage is prolonged by the continuation of more or less pain, and a diminution of power of motion, and possibly some loss of sensation, there is to my mind no remedy that can be substituted for electricity.

It should be applied about twice in the twenty-four hours, for from ten to fifteen minutes at a time. Applying one pole as near as possible to the origin of the sciatic nerve, and the other to the plantar surface of the foot. All painful points of the nerve and its branches should be successively included in the current. After the patient has become accustomed to the application, a pretty strong current may be employed. I have practically demonstrated the benefits of this mode of treatment, and commend it to the members of this society.

SURGICAL AND MECHANICAL RELIEF OF SO-CALLED HOPELESS PARALYTIC CRIPPLES.

By DeFOREST WILLARD, M. D.,

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Scattered throughout the State are scores, yes, hundreds of individuals who spend their lives helplessly upon the floor or in beds, or who are extremely limited in their means of locomotion, and only move about on crutches. Many of them never see the outside world. Some of these cases are deformed from bone inflammations, but a large portion are deprived of locomotion by the results of various forms of paralysis.

Infantile paralysis and cerebro-spastic paralysis are the two forms most commonly met with. Anterior poliomyelitis, with its resultant atrophy of certain sets of muscles, gives greater power to the opposing muscles, which, together with weight-bearing, results in various contractions at hip, knee or ankle, which may ultimately prevent the patient from walking, even if the muscular power is to a certain extent retained. This interference with locomotion is largely mechanical, and even an individual of strong, normal muscles would find it difficult to walk with limbs permanently fixed in false positions.

A man, having but two feet, is in a worse position than a quadruped; weight-bearing being interfered with if a single supporting leg is affected. Man is a plantigrade animal and needs to tread broadly upon the sole of his feet to enable him to retain the erect position. The weight of the trunk must also be transmitted to the feet in nearly a straight line. When this position is impossible the individual is necessarily rendered helpless. The first idea, therefore, should be to place the limb as nearly as possible in the normal position for sus-

taining weight, and every effort should be made to secure this condition. Until it is secured, no one has a right to say that a case is incurable or that locomotion is impossible.

Atrophy of the muscles may exist, but the weakened muscles speedily assert their power under the stimulating influence of motion and exercise. I have records of scores of cases who for years have been helpless upon the floor, and would have remained so to this day but for the surgical and mechanical assistance rendered them. Some of them have been made walk unaided for miles, others progress with the assistance of canes, some on crutches or by other aids; all such accessories are better than helpless confinement. Not only does locomotion add to the physical development, but it also contributes largely to the mental education and thereby increases knowledge. Faces upon whose lineaments had been stamped despair have become, by the magic influence of hope, bright and happy, and the individuals are aroused into useful members of society.

Even atrophy of the peri-articular muscles about the hip with contraction, though a serious condition and most difficult to overcome, ought not to be considered absolutely incurable, for surgical and mechanical measures can assist even this deformity.

If the arms are well developed and strong, we can most positively expect good results, no matter how weakened are the lower extremities; but where the poliomyelitis has been high up in the cord, and where the paralysis has extended to the upper extremities, of course the difficulty is greatly increased. In infantile spinal cases, however, the non-improvable cases are few.

In cerebro-spastic cases, of course, the benefit to be obtained will depend largely upon the brain power of the individual, but a surgeon can, even in these cases, put the patient in a condition to secure the advantage of contact with the outside world. This acts as a stimulation and secondarily results in brain development. All the theories of the neurologists can never discourage me when I see the results of my clinical work, even in the most desperate and even idiotic cases.

The staggering, uncertain gait of the spastic, often with knees striking or actually crossed, with knees flexed and heels raised, is well known, but if the brain power is present no one need despair of securing a moderate amount of improvement, depending in degree upon the vigor of the cerebral cells. The straightening of such legs and the sending of such individuals out into the educating influences of the world will daily expand the cerebral cortical cells, and improvement will nearly always result.

Treatment.—Operative interference, as a rule, should precede any attempt at mechanical support. It is useless to inflict pain when simple and safe operative measures will in half an hour accomplish the result in a better manner. One need not fear that a limb will become weakened in consequence of operative measures; on the contrary it will be stronger, since the proper muscular equilibrium will be secured, and a limb with equalized muscular power must of necessity be more serviceable than one in which one set of muscles is strong and another set weak.

The one operative rule to be followed is to divide all contracted tissues, whether muscular, fascial or ligamentous. This may be done either subcutaneously or by open incision as seems advisable. In the region of important structures it is safer to be able to see exactly what tissues are to be divided, and with thorough asepsis a speedy closure may be expected.

It is perfectly feasible subcutaneously to cut the tensor vaginæ femoris and the origin of the sartorius and rectus together with the fascias, without injury to any important structures, but if the contraction extends forward and surrounds the anterior crural nerve, it will be safer to make an open section.

In extreme cases where the pelvis has been long tilted forward and the lordosis is very great, even section of the psoas and iliacus will not place the pelvis precisely in the normal line.

A longitudinal incision is better than a transverse one, as the straightening of the limb is apt to make a gap in a transverse wound. In all these cases of extensive division there is liable to be a large space beneath the anterior spinous process

which is difficult to obliterate. A cavity beneath the skin, even though filled with blood, is apt to give trouble; but by close suturing and the use of a large compress it can usually be obliterated.

For thorough stretching of the contracted tissue in front of of the hip, the pelvis can best be secured by placing the patient in the prone position, but care must be exercised not to injure the abdomen by undue violence, lest peritonitis result.

When the adductors are contracted, producing scissor or cross-legs, their division is easily accomplished subcutaneously. This subdermal method is decidedly preferable on account of the fact that in cerebro-spastic cases urinary soiling of the wound is common. To remove the puncture as far as possible from the genitalia, the skin of the thigh should be drawn toward the median line of the body, so that the puncture (which should be extremely small) shall, after recession, be nearly in the centre below Poupart's ligament. The saphenous vein must, of course, be avoided.

This operation must be done under the most strict aseptic precautions; the wound then to be carefully covered and possible infection excluded. The dressing near the genitalia should be covered with mackintosh and held in place by adhesive strips or protected by shellac.

The best dressing for the retention of the limbs in abduction is by fixing the knees by gypsum, then separating the limbs widely during the several weeks required for repair. Such dressing is also useful for keeping up extension on the divided tensor vaginæ femoris and rectus.

When there is extreme lordosis, as is present in old cases of infantile paralysis, much can be accomplished by long continued extension downward from the legs and upwards from the head and shoulders.

At the knee in cerebro-spastic cases, the tendons can be divided subcutaneously. In old cases, however, the contraction of the connective tissue is great, it is often wiser to do the open operation to avoid the risk of injuring the vessels and nerves, although when the tendons alone are at fault, the subcutaneous operation is preferable. If two or three longitudi-

nal incisions are made, closure is much more easily affected than by transverse cuts, as the latter always gape when the limb is extended.

The worst cases to encounter are those where the patient has crawled upon the floor for years and has produced a partial posterior displacement of the tibia together with an overgrowth of the anterior part of the condyle of the femur producing an overhanging bony ledge that can only be overcome by partial resection of the knee. In some of these cases, however, resection is of advantage, as subsequent anchylosis and fixation of the knee does away with the necessity for apparatus, and gives the patient a good walking member. I have operated upon quite a number of these cases for this purpose. In some cases only the cartilage is pared away from the anterior section just sufficient to straighten the limb. It is then necessary to fix the leg in the corrected position until anchylosis occurs in good line. It is seldom necessary to wire the femur and tibia, as a rigid dressing of plaster of Paris is sufficient.

If the operation is cleanly done no danger need be feared and primary union can be secured. The limb may be dressed in plaster of Paris, or a bracketed or a posterior splint may be employed.

At the ankle, in cases of infantile paralysis, tenotomy will be required; usually of the tendo-Achillis, the posterior and anterior tibials and the plantar fascia in equino-varus, and of the peroneals in valgic cases. In calcaneus, the shortening of the tendo-Achillis is occasionally necessary with the subsequent employment of a stop joint. In adults the astragalus may require removal in stubborn varus, or the scaphoid may demand similar excision in particularly bad valgus.

In anchylosis following inflammatory trouble about the joints, tenotomy, forcible straightening, osteotomy and excision are all most serviceable.

After recovery from operation, the employment of apparatus is nearly always indicated to retain the limb in the restored position, or to assist in weight-bearing.

The apparatus required varies so greatly with each individual case, that it can scarcely be described, since each problem

requires a careful and systematic adaptation of means to ends. The muscles should be compelled to assist to the full extent of their ability so as to develop their tone and vigor, which will steadily increase under use. When only partially useful, they should be assisted by elastic or spring assistants attached to sustaining uprights.

Only when the limbs are entirely helpless should lock joints be employed, but stop joints are often of service to prevent deformity. The appliance should be as light as is compatable with strength. When the arms are strong, great assistance can be given by the use of crutches, canes, wheeled crutches, trolley supports, etc., etc. Massage and electricity are useful adjuncts.

Conclusions.—1. A limb contracted at the hip, knee or ankle is mechanically unfit for locomotion, but if brought into a straight line with the body it can sustain the weight.

2. Surgical measures, tenotomy, myotomy, osteotomy or excision are frequently required to accomplish this result.

3. Subsequent support by mechanical appliances is usually necessary, together with the temporary use of crutches, wheeled crutches or other support.

4. By a judicious combination of these measures a case having sufficient strength in the arms to assist in locomotion, need not be considered hopeless.

REPORTS OF COUNTY SOCIETIES.

ALLEGHENY COUNTY.

The numerical strength of the Allegheny County Medical Society is steadily increasing year by year; the number of active members now amounts to almost three hundred. The annual loss from removals and for non-payment of dues, is quite small. During the past year, the Society has lost four members by death.

In Memoriam: J. M. Stevenson, M. D.

Dr. J. M. Stevenson died February 3, 1896, in his sixty-seventh year. At the time of his death he was not an active member of the Society, having withdrawn from practice, by reason of ill-health, two or three years before.

He was born in 1829 near Murraysville, Westmoreland County, Pa. He graduated at Jefferson Medical College in 1859. He first located in Adamsburg, Westmoreland County, and removed to Pittsburg in 1875. He was President of this Society in 1879; of the Pittsburg Obstetrical Society in 1889, and served on the staff of several hospitals for many years.

In Memoriam: J. H. Christie, M. D.

Dr. J. H. Christie was born in Portersville, Pa., in 1841. His medical education was obtained at Jefferson Medical College, where he graduated in 1866. He served during the greater portion of the War of the Rebellion as hospital steward. A few years after graduating he settled in Allegheny where he remained up to the time of his death, March 30, 1896. From the time of its organization, he was a member of the medical staff of the Allegheny General Hospital. He was admitted to membership in the Society in 1880.

ARMSTRONG COUNTY.

In Memoriam: Myron H. Alter, A. M., M. D.

Dr. Alter was born in Freeport, Armstrong Co., Penna., on January 23, 1851. He died of Bright's disease at West Pennsylvania Hospital, Pittsburg, Pa., January 22, 1896.

He was the son of Dr. David Alter, of Freeport, who was a physician of high repute in all the western part of Pennsylvania. Renowned as a scientist and inventor, he was one, among others, in Europe and America, who had completed the means of distant communication by electricity about the time Morse received his patent for the telegraph. He, also, for several years, carried on the manufacture of bromine, having the only establishment of the kind in this country at that time. Several other inventions and discoveries are also due to his genius.

His son, Myron, inherited, in a large degree, his patient, investigating spirit and talent, and was constantly called upon by his brother practitioners to make both chemical and microscopical examinations for them in special cases.

He likewise had decided esthetic ability, both in music and painting, and many gems from his hand exist to-day in evidence of the fact that he was an artist of no ordinary ability. He was one of nature's noblemen. A man of learning, an extensive reader upon all subjects and a logical reasoner in all lines of thought.

In religious matters he was reticent; but those who knew him well saw clearly his profound reverence for truth and his high ideal of the Supreme Being and his relations to man. Ill-health and a naturally retiring disposition alone prevented him from occupying a very high place among men and in his chosen profession.

His early education was obtained in the public schools and academy at Freeport, Pa., then at Mt. Union College, Ohio, graduating from the latter school in July, 1871, and receiving his "A. M." degree three years later.

He began the study of medicine with his father, attended his first course of lectures at the University of Michigan, Ann Arbor, Mich., in 1872–3. Upon his return he assisted his father in his practice. He entered the College of Physicians and Surgeons, Baltimore, Md., and graduated therefrom in 1878.

Locating at Kittanning, Pa., in May of the same year. he continued in practice for ten years, when, on account of asthma, he sought the milder climate of California, locating at Los Angeles in May, 1887, and remaining there in practice for some years. Not receiving the benefit he had hoped for, he returned to Kittanning again, after a year's stay at his old home in Freeport, Pa., and although a sufferer himself from a complication of diseases, he strove to the last to alleviate the sufferings of those around him.

He was a member of the Armstrong County Medical Society, Pennsylvania State Medical Society, American Medical Association, American and Iron City Microscopical Societies, first President of the Southern California Scientific Association, Vice-President and Lecturer upon Art in

the School of Design at Los Angeles, Cal., and had received at the time of his death several other literary and scientific titles and degrees. In 1887, he took a special course on the eye and ear at the University of Pennsylvania. In 1883, he was elected, by the American Medical Association, a delegate to the British Medical Association, which met in London. He attended the sessions, and afterward made quite an extended tour, visiting all the leading hospitals and institutions of medicine in the interest of his profession.

Dr. Alter was married in 1870 to Miss Minnie Murphy, of Freeport, Pa., who, with three sons, survives him.

In his family relations he was kind, devoted and loving: in his profession conscientious and faithful, giving the best of himself and his skill to his patients. He took no thought for self, if he could bring comfort and relief to the suffering—ministering alike to the poor and needy as well as to the rich.

In his death we have lost a valuable member of the Armstrong County Medical Society, and while we regret the fact that we shall no longer listen to his cultured papers or his erudite address, yet we recognize in all the inscrutable hand of a Divine Providence that doeth all things well.

Committee: { F. C. Monks, M. D., J. T. Deemer, M. D., T. N. McKee, M. D.

INDIANA COUNTY.

In Memoriam: Wm. Anderson, M. D.

Dr. Wm. Anderson was born June 6, 1825, in Green Township, Indiana County, Pa. His parents emigrated to this country from County Derry, Ireland, in 1817, and settled on a farm in the eastern part of Indiana County, where he passed his early life, working with his father on the farm and attending at intervals the district schools, in which he acquired a good common education, fitting him for a higher course of instruction, which he entered upon at the Blairsville Academy and finished at a classical academy at Indiana. After two years of close office study with Dr. James M. Taylor, of Indiana, he entered, October, 1850, the Jefferson Medical College, Philadelphia, returning the following year and graduating March 6, 1852, attending, however, a third course at his *Alma mater* in 1868–69. On graduating, he located at Indiana, where he continued to reside until the date of his death, March 29, 1896, aged 70 years, 9 months and 24 days.

His practice was general, embracing medicine, surgery and obstetrics. He had been a member of the Indiana County Medical Society since its organization in 1858, and was its first secretary, its second president, and had filled in turn all the rest of its offices, besides representing it at different times in the Medical Society of the State of Pennsylvania and in the American Medical Association. He had been a member of the State Society since 1862, was one of the vice-presidents in 1864, and the president in 1865. Since 1868, he had been a permanent member of the American Medical Association, and was a member of the International Medical Congress that met at Philadelphia in September, 1876; a member of the Ninth International Medical Congress, which met at Washington, D. C., September, 1887, and also of the Pan-American Medical Congress, which met at Washington, D. C., September, 1893.

Several months before the date of his death, Dr. Anderson was seized with an attack of *la grippe*, which persistenly clung to him, and which, in spite of his powerful physique and the ruggedness of his constitution, brought about his demise on the date heretofore named.

In early life, Dr. Anderson connected himself with the United Presbyterian Church, retaining his membership during all the years of his life. Of his general character, one of the local journals says: "Being of a mild, genial disposition, everybody loved him, and he had words of encouragement for all with whom he came in contact."

It is not the intention of the authors of this sketch to subject his home life to the search-light of publicity, but it is felt that not all of the nobility of his character and life would be revealed it it were not said of him that he was devoted as a husband, kind as a father, a lover of his home, and a private citizen who ever took an active interest in all the affairs of life with which he was surrounded. He was noted for his affiliation with all the societies and associations having for their object the free interchange of opinions on remedial subjects. He was fond of public discussion of all the questions of the day and hour. Being a great reader, and possessed of a very retentive memory, his mind was stored with the recollections of the writings and opinions of almost all the great thinkers and pioneers of the profession, so that he was ever ready to take part in the discussion of almost any topic. All this tended to make him a very valuable member of any society with which he was affiliated. He was always the leading spirit of his County Society, and its long life and prosperity are largely due to his untiring and unselfish labors.

Had Dr. Anderson been possessed in even an ordinary degree of ambition and the love of place, there is no question but that his name and fame would have spread far and wide, but he preferred the seclusion of his study, the attractions of his home and a life devoted to friend and neighbor to the fierce light that beats upon him who is a conspicuous actor upon the great stage of life.

Dr. Anderson was a not infrequent contributor to the periodical medical literature of his day, and all his contributions are marked by careful adherence to only such opinions and theories as were firmly established, and had been removed from the field of mere speculation and experimenting to that of definite and assured knowledge.

Among the more notable productions of Dr. Anderson are his monographs on Sclerosis of the Nerve Centres; Pyemia; Nervous Diseases; Tobacco Hygiene—all of which are efforts in which much original research and thought is shown, and which betray the work of a scholarly practitioner. In reviewing his literary works it will not be out of place to say a word with reference to the address delivered by him before the State Medical Society, when, in 1865, he was elected its president. In it is to be found Dr. Anderson's ideal of the physician, what he should be, and what he should do, and in language eloquent by reason of its simplicity, and forceful because of its plainness, he tells of the high standard that he who is conscientious in the practice of his profession should strive to attain. One of Dr. Anderson's characteristics was a horror of and contempt for all that savored of quackery and charlatanry, and in this address he condemns in scathing terms those who approach to them even in the faintest degree. The most valuable, perhaps, of Dr. Anderson's literary labors is his work entitled, A Brief Biographical Sketch of the Medical Profession of Indiana County, Pa., published in 1892. It is a volume of about 200 pages, and is really a remarkable work. Its contents cover a period of ninety years, and it is believed that the author has given in it some information of every physician who, previous to 1892, practiced his profession in the county. The task was, in many respects, a herculean one, since no records of local history had been kept, and to gather together the details must have been a task of no small magnitude. It contained 269 biographies, and this statement alone will clearly give an idea of the amount of labor involved in its production. As a contribution to the local history of that section, it is invaluable, and the years as they pass will but increase and add to that value. Its chief characteristics are its accuracy and the perfect justice dealt out to the subjects of his sketches. It is a book of facts, a record of happenings, a historical compend, and not a vehicle for fulsome flattery nor a weapon of revenge. It is such a work as one would expect at the hands of one who was conscientious, right-minded and well-fitted for the task, and, aside from the value of its contents, stands a monument to the worth of the deceased brother. A fitting finale to this rather imperfect sketch of the life of Dr. Anderson are the following words penned by one who is the Nestor of the medical profession in Indiana County, and in which are summed up, in few but expressive words, a true estimate of the worth and character of the late Dr. Wm. Anderson : "In him were happily combined calmness of man-

ner with firmness of character; strictly honest with his patients and honorable with the members of his profession, he was always prompt to advise that which was for the best interests of the former, while he upheld the professional standing of the latter. His wonderfully retentive memory held in store many facts and remedies derived from other than strictly medical sources, which assisted much in rendering him *semper paratus* in all emergencies. His strict conscientiousness was one of his most marked characteristics. He would suffer what he considered injustice and persecution rather than submit to anything which would cause him to act contrary to his principles."

Committee: { James McMullen, L. S. Clagett, I. P. Klingensmith.

LANCASTER COUNTY.

The Society held its meetings regularly on the first Wednesday of every month, with a good attendance at each meeting. Many valuable and interesting papers on various subjects in medicine, surgery, and obstetrics were read and discussed by the members. Some very important and interesting cases in practice were reported. Our membership was increased during the past year by the addition of ten new members. Two of our number were called from their labors by death. During the past year the general health of the county was tolerably good, with the exception of an epidemic of scarlet-fever and diphtheria, which prevailed in the city of Lancaster and a portion of the surrounding country through the autumn and winter months. The statistics of the Board of Health of the city of Lancaster show that there were 384 cases of scarlatina in the city, with 7 deaths, a mortality of 1.82 per cent, while the mortality from diphtheria was much greater, there being 359 cases with 106 deaths, a mortality of 29.52 per cent.

Committee: { A. M. Miller, M. D., *Ch'm*, J. A. E. Reed, M. D., W. S. Brenholtz, M. D.

In Memoriam: George Washington Beane, M. D.,

1839–1895.

Dr. Beane was born in Washington County, Maryland (near Broad Fording, five miles west of Hagerstown), on the 22d day of February, 1839. His boyhood was passed on his father's farm. At the age of 14 years he was placed in a store at Mirontown, Carroll County, Md. His

father and family then moved to Pennsylvania, when the subject of this memoir entered the Millersville Normal School to prepare himself for teaching. He taught school for several years and then decided to study medicine. He took up the study of medicine and was graduated from Jefferson Medical College in March, 1866, and located at Manchester, York County, Pa. He remained there but a short time, and in 1867 located at Bainbridge, Lancaster County, taking the practice of his brother, Dr. W. H. Beane, now of Middletown, Pa. He continued in active practice up to the time of his last illness. Dr. Beane was a member of the State Medical Society, and at one time one of its vice-presidents. He was also a member of the School Board at Bainbridge. He was a man of rare social qualities, full of genial sunshine, which he carried with kindly cheer to the bedside of his patients. In the winter of 1894–95 he had a severe attack of *la grippe*, and, venturing out too soon, suffered a relapse, which developed into pneumonia, terminating fatally on the 15th of July, 1895.

Dr. Beane was held in very high esteem by the citizens of Bainbridge and vicinity, as verified by the very large concourse of people attending his funeral. He was buried in the beautiful cemetery at Bainbridge, the following members of the Lancaster County Medical Society acting as pall-bearers: Drs. Craig, Lineaweaver, Livingstone and Bockius, of Columbia ; Dr. Treichler, of Elizabethtown, and Dr. Whistler, of Bainbridge. His wife and two sons survive him.

At the regular monthly meeting of the Medical Society at Lancaster in August, 1895, it was

Resolved, That in the death of Dr. Beane, this Society has lost a highly esteemed member, one whose devotion to the practice of his profession is deserving of our highest commendation.

In Memoriam : William Compton, M. D.,

1825–1895.

Dr. Compton was born in the vicinity of the village of Cambridge, Chester County, Pa., December 30, 1825. After studying in the common schools of his native village, he entered the Waynesburg Academy, which he left to enter upon a course of medical instruction under the preceptorship of Dr. B. F. Bunn, of Churchtown, Lancaster County, Pa. He attended two full courses of lectures at the Philadelphia Medical College, and was graduated from that institution in the spring of 1853. The same year he located permanently in Lancaster City to practice his profession. He became a member of the Lancaster County Medical Society in the month of August, 1853, a member of the State Medical Society in 1868, and a member of the American Medical Association in 1884. He was chosen President of the Lancaster County Medical Society in the year 1885, and

was associated with the Board of Censors for several years prior to his demise. He was a volunteer emergency surgeon in company with several friends from this Society in the battle-fields of Second Bull Run and Antietam in the late Rebellion. He was surgeon to the Coroner for a term of years, was also connected with the Medical Department of the Lancaster County Hospital and Prison, and was a Pennsylvania Railroad surgeon for ten years. He took an active interest in commercial pursuits, was a sagacious man in business affairs, and in his personal relations in this field of labor, he had the respect of his friends for uprightness of character and correct dealing. He was frugal and economical, and by good management and industry he secured for himself a competency for his declining years. In his private relations he won many warm friends by his genial good nature. Those who were closely associated with him in society will feel the absence of the cheer of his greetings and wide-awake conversation.

He was taken with a severe attack of pneumonia, from which he did not rally, and died on the 15th day of December, 1895, about one week after he was compelled to take to his bed. His illness left no sign on his countenance, and those who looked upon his face for the last time saw there something of the kindly smile with which in life he greeted his friends.

The Lancaster County Medical Society passed appropriate resolutions of condolence for the loss of one who, for more than forty years, was an active and attentive member, and an ardent supporter of the Code of Medical Ethics, whose gentlemanly bearing and courtesy had won the esteem and respect of his fellow-members.

LUZERNE COUNTY.

In Memoriam: Joseph A. Murphy, M. D.

Joseph A. Murphy was born at Chanceford, York County, Pa., February 17, 1842. He was the son of John A. and Nancy Clarkson Murphy. Spending his youthful career on his father's farm, he acquired, as a farmer's son, a physical constitution that served him well in the years of his mental pursuits and the herculean labors of his professional life. He received an excellent preparatory college education, and early chose the medical profession as the field whereon to pitch his tent and fight the battle of life. In the selection of a tutor he was most fortunate. He studied medicine under one of America's most accomplished surgeons and physicians, Doctor John L. Atlee, of Lancaster, Pennsylvania, and received

his degree of "Doctor in Medicine" from the University of Pennsylvania in 1868. Doctor Murphy commenced his medical practice, after graduation, at Columbia, Pa., but soon sought a wider field for his usefulness, and came to Wilkesbarre in the summer of 1869. He was a very modest and unpretentious man, and, in his early years, somewhat bashful, but he was a gentleman by intuition. Some faculties are acquired, but the peculiar and grand ability and disposition of attracting stable and lasting friendships is not an artifice, but an inheritance. This noble inheritance Dr. Murphy possessed in abundant fullness. Equipped with these superior qualities, the prophetic eye could as certainly forecast the happy results as that the sun will shine at midday if there are no intervening clouds.

And so he enjoyed the unstinted respect, confidence and love of not only his clientele, but of the whole body of the people. In his professional career, one success followed another until he became interested in everybody and everybody interested in him.

In May, 1872, Doctor Murphy was united in marriage with Miss Frances Parrish. His practice covered a wide range of territory. His affable manner, his fine physique and commanding presence conjoined to his superior professional knowledge and ability, put him *en rapport* with the great body of the people, whose friend he was and whom he delighted to serve. In addition to his very extensive private practice, Doctor Murphy devoted his full quota of time in attendance at the Wilkesbarre Hospital, as one of the staff of surgeons and physicians, from its erection to the time of his death.

Doctor Murphy was a member of the American Medical Association, of the Pennsylvania State Medical Society, of the Lehigh County Medical Society, and was one of the oldest members of the Luzerne County Medical Society, in which he took a great interest, and was one of its most prominent members. His professional practice, and the demands which professional reading made upon him, left him but little time for the pursuits of general literature, general business, or recreation and amusement.

His literary tastes were chaste, and whatever had a tendency to develop true manhood and promote general welfare and happiness, found in him an enthusiastic champion, an earnest advocate. Doctor Murphy entertained strong political opinions, but wisely refused to involve himself in politics. During life, the long established ethics of the medical profession prohibits the trumpet's blare of professional fame, and the leaded headline, the bill-board, board fence and painted rock methods, so enormously common in trade and commerce. Not until the curtain of death is drawn is the profession permitted to summarize and declare its estimate of the professional qualifications of a brother taken from our ranks by the

hand of death. Probably the most accurate thing we can say of him is that he was a first-class all-around doctor. Thoroughly grounded in all departments of his art, he made no pretensions to special branches—not that he ignored the advantages to be derived from exclusive labor and practice in particular lines; yet he preferred a general practice, and, as a general practitioner he was a shining light, and found ample opportunity to do the greatest amount of good of which one man is capable.

Whether in medicine or surgery, he was a safe, conservative, skillful and successful practitioner. He was a believer in well-established methods in all the branches of medical practice, and was chary in giving approval to the latest and astounding remedies, resting only upon popular favor and interested financial foundation. Intensely loyal to his profession, he was an excellent consultant among his peers, and to the younger members his advice was as scrupulous, comforting, considerate, gentle and kind as a father to his children.

Doctor Murphy apparently commenced to decline in health about a year since, and he sank rapidly the last two months. There can be little doubt that the constant mental strain of a quarter of a century which he endured, was the main factor which, through the emotions and disturbed functions of animal life, developed the physical disturbance which rendered a cure impossible and death certain. He was not the first sacrifice in the profession, nor will he be the last. And, if we may appreciate and appropriate the lesson fairly deducible from his untimely death, it is a solemn reminder that so active a professional life has its limit and its certain penalty.

Doctor Murphy was not deceived as to his condition and danger by the kind and guarded encouragement of his medical friends, nor by the hopes and anxieties of his family and friends. He plainly foresaw his approaching end, and by masterly mental effort reconciled himself to the inevitable, grandly commanding the courage and Christian fortitude to prepare for and meet death with perfect composure and peace, folding his arms and closing his eyes, without leaving an enemy in the world. Doctor Murphy died at high noon April 4, 1896, leaving a widow and three affectionate daughters to mourn his loss.

Members of the learned professions pass judgment upon the merits of their brothers mainly from a professional standpoint and by recognized standards in their particular professions. Their verdict, therefore, to that extent, is entitled to the highest consideration, for it is the judgment of peers. But, as in all learned professions, so in medicine, there yet remains a greater tribunal, another inquest to be heard from, whose verdict is final and conclusive. We refer to the great jury, the whole body of the people. Hence the maxim, *Vox populi, vox Dei.* He who secures the approval of this universal inquest, enjoys all that can be de-

sired, for it is all this world can give and is the crown immortal. From the public press, the great mouthpiece of the people, from every source and by every means whereby this glorious verdict of "well done, good and faithful servant," may be announced, the testimony to our departed brother is sincere, truthful and of gratifying abundance.

Committee: { Harry Hakes, M. D., Alexander G. Fell, M. D., W. G. Weaver, M. D.

WASHINGTON COUNTY.

In Memoriam: Thomas McKennan, M. D.

Washington County Medical Society has, during the past year, been called upon to part with one of its most esteemed members. At the meeting of the Society in August, 1895, the Committee, consisting of Drs. Wray Grayson, H. L. Snodgrass and J. B. Donaldson, presented the following report on the death of Dr. Thos. McKennan:

In the death of Dr. McKennan, the Medical Society of Washington County is called upon to mourn the loss of one of its oldest and most distinguished members. For two years he suffered with a disease, the exact nature of which was unknown, and, in spite of all the tenderest care love could suggest, and the highest medical skill afford, he fell peacefully asleep on Thursday, August 8, 1895, in the very house where he was born, nearly 75 years before.

Dr. McKennan was born in Washington, May 21, 1821. He graduated from Washington College in the class of 1842, and immediately entered upon the study of medicine under the care of Dr. Lafferty, of Brownsville, Pa., his course being completed at the University of Pennsylvania, he receiving a diploma from that institution in 1846. After spending a year as interne at Blockley Hospital, he was, for a few months, located in Allegheny, Pa., from whence he moved to Washington, where 44 years of his active and successful life were spent.

In October, 1854, he was married to Margaret Stockton. They reared a family of twelve children, two of whom are successfully following in the chosen profession of their father. Dr. McKennan was a man of broad views and untiring activity in church and educational interests; all local matters tending to the advancement of his native town, bear witness to his conscientious and indefatigable energy.

He was loved and trusted by his fellow-townsmen, and often called by them to fill positions of responsibility, but it is not so much of this as of

his attainments as a physician that it is desired to speak more fully. Honest, pure and true as a man, conscientious and skillful as a practitioner, his life has honored one of the noblest professions.

Perhaps no man will be more missed from this Society than Dr. McKennan. So great was the interest he felt in this Association, that he attended the November meeting in Monongahela, although at the time suffering and much enfeebled. The confidence of the profession is shown in the fact that he was twice elected President of the Society, served also as Vice-President of the State Society, and a Director of the West Pennsylvania Hospital.

His presence in the sick-room at once inspired confidence, while his quiet and thorough manner of observation assured the patient that he was in the most skillful of medical hands. His opinions and counsels, both in medical and surgical cases, were much sought after by other members of the profession, and this was especially so with the younger members. Just here we find one of his most striking characteristics: his business fairness in consultations, his sympathy with the attendant physician, his willingness to aid him with practical suggestions drawn from his long and varied experience, characterize both the man and the physician.

In the words of another, "No physician, however ignorant or inexperienced, was ever treated by him as an ignoramus," and the best interests of both patient and attendant were most scrupulously looked after.

In the death of Dr. McKennan the family has lost a devoted husband and father, the profession an esteemed physician, and the community an honored citizen.

HISTORY OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

By WM. B. ATKINSON, A. M., M. D.,
SECRETARY OF THE SOCIETY, PHILADELPHIA.

Up to the date of the organization of this Society, but few Medical Societies were in existence. In Pennsylvania there were the Philadelphia Medical Society which was organized in 1796, the College of Physicians a little later, the Northern Medical Association of Philadelphia, the Chester County Medical Society, the Lancaster City and County Medical Society, the York Borough and County Medical Association, the Medical Faculty of Berks County, the Medical Faculty of Montgomery County, the Lebanon County Medical Society, the Schuylkill County Medical Society, the Susquehanna County Medical Society, the Lycoming County Medical Society, the Medical Faculty of Dauphin County, and the Medical Faculty of Bucks County. Many of these were but feeble organizations and were merely social gatherings of physicians.

Early in 1848, the Societies of Chester and Lancaster Counties invited all these Societies to send delegates to the City of Lancaster for the purpose of organizing a State Medical Society. Unfortunately no record of this invitation has been found, so that the writer is unable to show what the chief ideas of those who issued this invitation were. No doubt they had observed the difficulty experienced in the various Societies in the keeping up of the organizations, and hoped by means of a State Society to institute a more powerful aid in the formation of Medical Societies, and the union of these into a harmonious body which would act to attract all respectable physicians to connect themselves with the local bodies.

Even as late as the year 1850, the writer is aware of a great objection on the part of many of the more prominent physicians to hold allegiance to any form of medical organization, especially was this the case in the large cities and towns. Living in the light of the valuable results obtained from the many Medical Societies of the present day, it is difficult to realize the heart burnings and jealousies then prevailing. Up to the year 1857, membership was rarely sought, often declined, and for the most trivial reasons. It was hoped that the foundation of a State body would do much to destroy such impressions, but ten years after its origin, the growth of the County Societies was extremely slow, the State Society itself while meeting yearly, made but little advance, nor was it till after the fearful internecine strife had shaken the republic to its foundations, and the Union had, as it were, risen on its ruins, that the true fraternal feeling began to show itself, last of all among the profession. Pursuant to the call there assembled in Lancaster, in

the Methodist Episcopal Church, a convention of medical men representing the counties, the University of Pennsylvania, the Jefferson Medical College, the Franklin Medical College, the Philadelphia Medical College, the Pennsylvania Medical College, the Philadelphia Association for Medical Instruction; the gentlemen representing these bodies deserve the honor of special mention.

In all sixty-one were present. In looking over this list we recognize men who have aided largely to make Philadelphia and our State famous in medical science. Men then professors in the colleges, men afterwards professors in these schools, men who have revolutionized medical science. At the present writing, after living to great age, crowned with honors, all have departed save one, who still remains with wonderful vitality, honored and beloved by all who know him, Dr. Alfred Stille. But recently, at the age of 88, death removed Dr. Hiram Corson, who with Dr. Stille were the only survivors of this band of earnest physicians.

A Committee on Nominations of one from each county was appointed, a plan which prevails to this day, and the following ticket was reported: President, Dr. Samuel Humes, of Lancaster; Vice-Presidents, Dr. John P. Heister, of Berks, and Thomas Wood, of Lycoming; Secretaries, Drs. Alfred Stille, of Philadelphia and G. Z. Dimock, of Susquehanna. These were unanimously elected; Dr. Stille, however, at once resigned his position, and Dr. D. B. Marshall, of Lebanon, was elected to fill the vacancy. A committee was appointed to prepare a Constitution and By-Laws for a State Medical Society. The report of this committee when adopted, is substantially in its more important features the law of the present day—"the objects shall be the advancement of medical knowledge, the elevation of professional character, the protection of the interests of its members, the extension of the bounds of medical science and the promotion of all measures adapted to the relief of suffering and to improve the health and protect the lives of the community. The Society shall consist of delegates and associates. The first to receive their appointment from the County Societies. Every member of a County Society to be an associate of the State Society so long as he conforms to its regulations. The officers to be a President, four Vice-Presidents, a Corresponding Secretary, two Recording Secretaries, a Treasurer and five Censors for each of the six censorial districts. Each to serve for one year, or till another is elected to succeed him. None but delegates eligible to the offices of President, Vice-President, Secretaries or Treasurer, delegates and associates (provided they have been fifteen years in practice) shall be eligible to the office of Censor; the duties of officers as usual. County Societies were to be organized as usual. Meetings of the State Society were to be held in April, time and place to be determined each year. Funds were to be raised to defray the expenses of the Society by an assessment of the County Societies of not more than two dollars for each delegate to which said Society was entitled. The Society adopted the Code of Ethics of the American Medical Association. The Censorial Districts were arranged so as to unite adjacent counties." The By-Laws were merely the order

of business. An effort to obtain legislation to prevent the irregular practice of medicine was made but defeated. The convention then resolved itself into the "Medical Society of the State of Pennsylvania."

The following were then elected the first officers of this body: President, Dr. Samuel Humes, of Lancaster; Vice-Presidents, Drs. John P. Heister, of Berks; Samuel Jackson (Professor), of Philadelphia; Thomas Wood, of Lycoming; and John L. Atlee, of Lancaster; Corresponding Secretary, Dr. Isaac Hays, of Philadelphia; Recording Secretaries, Drs. H. S. Patterson, of Philadelphia and George B. Kerfoot, of Lancaster; Treasurer, Dr. George Fox, of Philadelphia; Censors S. E. District, Drs. F. A. Muhlenberg, of Lancaster; George W. Norris, of Philadelphia; Wilmer Worthington, of Chester; James S. Carpenter, of Schuylkill; and Hiram Corson, of Montgomery. They were recommended to have power to act for the whole State till the next year. It was resolved that we approve of the standard of preliminary education recommended by the American Medical Association, and urge its strict observance upon County Medical Societies. The Society then adjourned to meet in Reading on the second Tuesday of April, 1849.

Second Annual Meeting.—The Society met in Reading, April 11, 1849, in the Universalist Church at 11 A. M.

But thirty-one members were present, representing the Counties of Philadelphia, Lancaster, Berks, Allegheny, Bucks, Chester, Montgomery, Lycoming and Schuylkill. President Humes delivered the first Annual Address. He congratulated the members upon the numbers and respectability of the anniversary meeting. It showed the determination of the profession to place itself on an elevated position; further appeals to legislative halls were futile, as forty years of trial had shown. Insult had been added to indifference. At one period a salutary bill had been passed, but the Governor had vetoed it, fearing the influence of charlatans when he presented himself for re-election. Dr. Humes urged the Society to following the example of the American Medical Association and repudiate all legislative aid. He alluded to the efficient action of Congress on the bill relative to the importation of adultered drugs. "When those only shall be selected for our profession whose preparatory education accords with the sensible views entertained by the Committee of the National Association on that subject, when our schools persevere in the courses promised for theoretical and clinical instruction, when our graduates in medicine select locations for practice without reference to their comfort and ease, but where their recently acquired knowledge can be brought into immediate requisition, when liberal and conscientious views are entertained in relation to medical consultation in extreme cases, where the lives of valuable citizens are in jeopardy and they are not deferred until the moribund condition, when those only are members of the profession whose thirst for wealth is merged in the more noble desire of becoming successful practitioners in medicine, when the infinitesimal humbugs of the day are superceded by the sober second thought of an enlightened community, and finally, when

our profession is distinguished for the liberal, benevolent and gentlemanly bearing of its members toward one another, then will the period have arrived, as predicted by the immortal Rush, 'when casualties and old age shall be the only outlets of human life.'" The Constitution was amended "Provided that the members of the profession of the city and county of Philadelphia may, if they deem it expedient, form three societies within their limits, of which the College of Physicians, now existing, shall be one;" with the understanding that in apportioning their representatives no person shall be counted more than once as where persons may belong to two or more societies. It was also amended to base the representation on one delegate for every five members. A committee was appointed upon a Medical Beneficiary Fund. It was agreed that the next meeting should be held in Philadelphia on the third Wednesday in April, 1850.

The following were elected the officers for the ensuing year: President, Dr. Samuel Jackson (Professor), Philadelphia;[1] Vice-Presidents, Drs. E. D. Kittoe, Lycoming; W. Worthington, Chester; C. H. Matthews, Bucks; and George Halberstadt, Schuylkill; Corresponding Secretary, Dr. Isaac Hays, Philadelphia; Recording Secretaries, Drs. Henry S. Patterson, Philadelphia, and George B. Kerfoot, Lancaster; Treasurer, Dr. George Fox, Philadelphia; Censors were elected for the 1st, 2d, 3d, 4th, 5th, and 6th districts; Delegates were also elected to the American Medical Association.

A statement having been made of the prevalence of small-pox in Lycoming County and the general neglect of vaccination, it was resolved that the Society approve of a plan of universal vaccination, so far as practicable throughout the State, and that they recommend the granting of authority by the legislature, to the several counties to provide the means of such vaccination within their respective limits. A committee was appointed to collect information in regard to the prevalence of small-pox, with instructions to report next year.

Resolutions were adopted to secure by legislation the registration of births, marriages and deaths, and a committee was appointed to take charge of the subject with the request that the Societies and profession use their influence to carry out the project. Of those present at this meeting, Dr. J. Augustus Ehler, of Lancaster, alone survives.

The *Third Annual Meeting* was held in Philadelphia, April 17, 1850, in the Chamber of the Controllers of Public Schools in the Athæneum Building, Sixth below Walnut Street, at 11 A. M. There were 74 delegates registered from the Counties of Allegheny, Berks, Blair, Bucks, Chester, Erie, Huntingdon, Lancaster, Mercer, Montgomery, Northampton, Philadelphia, Schuylkill, Susquehanna.

The delegates were assessed one dollar to defray the expense of printing. The following was adopted: *Resolved*, that the State Medical Society cannot regard with indifference the condition and position assigned to members of the profession who are included in the military

[1] NOTE.—At this time and for a number of years there were two physicians of this name. The other being Dr. Samuel Jackson, of Philadelphia, formerly of Northumberland, hence familiarly known as "Northumberland Jackson."

organizations of the country and, therefore, regard with satisfaction the law which confers the assimilated rank of medical officers of the army previously conferred by regulation of the War Department; *Resolved*, that this Society approves the general order issued by the Secretary of the Navy, August 31, 1846, which assigns to medical officers in the navy an assimilated rank, and that their influence will be used to sustain their naval brethren in a position alike due to them and the profession of which they are members; *Resolved*, that inasmuch as medical officers of the army have been assigned an assimilated rank by law, it is right and proper that medical officers of the navy should also be assigned a definite rank by act of Congress, and the State Society, therefore, respectfully and earnestly invites the attention of the Senate and the House of Representatives of the United States to this subject. The County Societies were asked to consider the importance of furnishing reports on the health, medical topography, the occurrence and progress of contagious and epidemic diseases and such other medical intelligence of importance in their localities to the State Society, and a committee of five was appointed to receive these reports and present them to the State Society. The death of Dr. Charles H. Matthews, of Bucks County, was feelingly deplored. The Societies were urged to make an enumeration of the practitioners of their Counties, of the place and date of graduation and of the irregular practitioners, and on what grounds they pretend to practice. A resolution was adopted advising the County Societies to adopt regulations requiring their members to satisfy themselves either by personal inquiry or a certificate, of competent persons, before receiving students in their offices, that they are of good moral character, have a good English education, have a knowledge of natural philosophy and the elementary mathematical sciences, including geometry and algebra, and such acquaintance with Latin and Greek as to enable them to appreciate the technical language of medicine, and to read and write prescriptions. That they should make examinations from time to time so as to be able to give a conscientious certificate of their ability when they leave for the lecture room. The establishment of a Pathological Department under the auspices and control of the Society for the collection and preservation of morbid specimens which would conduce to bind the members of the profession in various sections of the State was urged.

Resolutions were adopted against the reception of a percentage from apothecaries, and the Society regarded all collusion between physicians and apothecaries, whether with a view to pecuniary profit or patronage, as opposed to every principle of the Code, and that no physician known to be guilty of such was entitled to the confidence and professional intercourse of the medical men.

An amendment was adopted changing the time of meeting to May. Philadelphia was selected for the next meeting on the last Wednesday at 11 A. M. Another amendment prohibited all collusion, etc., with apothecaries for patronage or profit. A very full report was made upon a Medical Beneficiary Fund, and the matter was referred to the Societies with a recommendation that they act upon it. Officers

selected for the ensuing year were: President, Dr. Wilmer Worthington, Chester County; Vice-Presidents, Drs. William Gries, Berks County; J. T. Allen, Bucks County; Charles Innes, Northampton County; and J. B. Luden, Huntingdon County; Recording Secretataries, Drs. Henry S. Patterson, Philadelphia and J. Augustus Ehler, Lancaster County; Corresponding Secretary, Dr. I. Hays, Philadelphia County; Treasurer, Dr. G. Fox, Philadelphia. The Recording Secretaries were instructed to publish the Proceedings, the Address of Professor Jackson, the Constitution and the Address to County Societies of last year. The volume had 55 pages, which included the report of the committee on the recent prevalence of small-pox by Professor Jackson, a paper of very great importance, giving full detail of the disease for several years in Philadelphia, New York and Baltimore from 1804 to date, and many points relative to the value of vaccination.

The *Fourth Annual Meeting* was held in Philadelphia, May 28, 1851, at the Hall of the Philosophical Society.

The register showed the names of 77 members. They represented the Counties of Berks, Blair, Bucks, Chester, Delaware, Erie, Huntingdon, Lancaster, Lebanon, Mercer, Mifflin, Montgomery, Northampton, Perry, Philadelphia, Schuylkill and York. The Secretaries, Drs. H. S. Patterson, Philadelphia and J. Augustus Ehler, Lancaster, resigned their positions and Drs. Isaac Remington, Philadelphia and Edward Wallace, Berks, were appointed. Reports from the County Societies were received this year from quite a number of Societies. It was urged that each county appoint committees to prepare such reports. It was announced that the Committee on Legislation had succeeded in having the Legislature pass a bill of registration of vital statistics, which was still waiting the signature of the Governor. At this session the Committee of Publication was organized, and it has since remained, to consist of seven members, of which the three Secretaries and the Treasurer are to form a part, the rest to be selected by the Society. A resolution was adopted urging a change in the representation to the American Medical Association, to confine it to delegates from the State and County Societies. In order to raise funds for the publication of the Transactions, it was agreed to assess the County Societies to a sufficient amount. An effort to form a Pathological Department was made, and a report on the subject urged the members to forward to the Philadelphia College of Physicians pathological specimens, the College to keep them open to the inspection of the members.[2]

A printed copy of the Proceedings of the Northampton County Medical Society was presented by a member. Amendments to the Constitution were made changing a few parts slightly.

The officers for the ensuing year elected were: President, Dr. Charles Innes, Northampton County; Vice-Presidents, Drs. Joseph B. Ard, Mifflin County; John Baskin, Mercer County; George W. Norris, Philadelphia County; and John P. Heister, Berks County; Recording Secretaries, Drs. Isaac Remington, Philadelphia County and Cyrus

[2] NOTE.—Specimens were to be forwarded to the care of Dr. John Neill, University of Pennsylvania, Ninth Street above Chestnut, Philadelphia.

D. Gloninger, Lebanon County; Corresponding Secretary, Dr. Isaac Hays, Philadelphia County; Treasurer, Dr. George Fox, Philadelphia County. Drs. G. Emerson, D. Francis Condie and Wilson Jewell, of Philadelphia, were appointed a committee to memorialize the Legislature for the passage of an act to secure the gratuitous vaccination of the poor throughout the Commonwealth. A special committee was appointed to investigate the accuracy of the conclusions put forth by Drs. Gregory, of London, and Cazenave, of Paris, in relation to variola and vaccination, as referred to by Professor Jackson in his report on these subjects.

The Society adjourned to meet in Philadelphia, the last Wednesday in May, 1852. The volume for this year was really the first worthy the name. It amounted to 128 pages, and contained the Minutes, the Address of the President, Reports from the Counties of Philadelphia, tables of mortality of Philadelphia and Districts for 1850, of Chester, Montgomery, Delaware, Berks, Lebanon, Huntingdon, Blair, Northampton, Erie, Mercer, the bill relative to births, marriages and deaths, Professor Jackson's report on vaccine, variola etc., an enumeration of the practitioners of Philadelphia County, statistics of practitioners of Berks County, report on the Medical Beneficial Fund of the Blair County Medical Society, etc. The report from the Philadelphia County Medical Society was divided according to the divisions then known, the city proper, the Liberties, consisting of Southwark, the Northern Liberties, the District of Richmond, the District of Kensington, West Philadelphia, Spring Garden, the District of Penn. The census as here given showed the population to be 408,873. The deaths were 2113.

The *Fifth Annual Meeting* assembled in Philadelphia in the hall, northwest corner of Twelfth and Chestnut Streets, May, 26, 1852.

The delegates numbered 67, from the Counties of Berks, Blair, Bucks, Chester, Delaware, Erie, Huntingdon, Lancaster, Lebanon, Mercer, Mifflin, Montgomery, Perry, Philadelphia and Schuylkill. But one new county was reported as having been organized. The edition of the Transactions was 750 copies. This year the delegates in attendance were not assessed. The reports of the County Societies were read by a member of that county. A committee was appointed to devise a plan to obtain information as to epidemics as they prevail over different geological formations of the State.

The following was adopted: That the members when associated for educational purposes, owe the same fealty to the Code of Ethics, or the Society in their corporate and associate capacities, as they do as individuals. A County Society was rebuked for publishing its report in the newspaper. An effort was made to induce all practitioners to unite with their County Societies by restricting representation in the American Medical Association to County, District and State Societies.

The officers elected for the ensuing year were: President, Dr. Hiram Corson, Montgomery County; Vice-Presidents, Drs. George Halberstadt, Schuylkill County; John T. Ray, Mercer County; John D. Ross, Blair County; and C. F. Perkins, Erie County; Recording Secretaries, Drs. H. S. Patterson, Philadelphia County and Joseph Gib-

bons, Lancaster County; Dr. Hays was continued as Correspondent, and Dr. Francis West, Philadelphia County, was elected Treasurer. The volume amounted to 146 pages, and contained the Minutes, President's Address, reports of the Counties of Schuylkill, Delaware, Lebanon, Mifflin, Blair, Chester, Bucks, Berks, Huntingdon, Erie, Montgomery, Philadelphia, Lancaster, Perry, a paper on Catarrho-nervous Fever, report on Variola and Vaccination, on gratuitous attendance on the poor. These reports, etc., appear to have been put together regardless of order either alphabetical or of relation to the Counties. In fact parts of County reports are separated, so that the work of the Publication Committee appears to have consisted in turning over the papers to the printers without further effort at editing.

The *Sixth Annual Meeting* was held in Philadelphia, May 25, 1853, at the Sansom Street Hall. The registry shows 85 names from the Counties of Berks, Bradford, Blair, Bucks, Cambria, Chester, Delaware, Huntingdon, Lancaster, Lycoming, Mifflin, Montgomery, Northampton, Philadelphia and Schuylkill. A singular custom was had in publishing the names of delegates from counties who were not present. In some instances no one was present from a county, but the list was published with asterisks to indicate those present. It was agreed to hold the next meeting at Pottsville. A resolution was adopted to prefix to each volume a disclaimer to show that this Society did not endorse or sanction the facts or opinions in any paper published. Now death begins to reduce the membership, and resolutions of regret were adopted relative to Drs. Samuel Duffield and Isaac Parrish.

The officers elected were: President, Dr. John P. Hunter, Berks County; Vice-Presidents, Drs. Francis S. Burrows, Lancaster County; John H. Gemmill, Huntingdon County; Robert K. Smith, Delaware County; and Jacob M. Confer, Blair County; Recording Secretaries, Drs. H. S. Patterson, Philadelphia County and Isaac R. Walker, Chester County; Drs. Hays and West continued as Corresponding Secretary and Treasurer. All Societies were requested to present in future topographical histories of their counties. A committee was appointed to acquire further information relative to Kine pock, to increase the facilities for procuring and preserving supplies of fresh and genuine vaccine virus, and reports on vaccination. It was agreed to meet the last Wednesday in May, 1854, at 11 A. M. The volume has 127 pages, consisting of the Minutes, Address of the President, reports from the Counties of Berks, Chester, Schuylkill, Delaware, Lancaster, Blair, Mifflin, Huntingdon, Susquehanna, Cambria, Montgomery and Bucks, a valuable paper on vaccination, small-pox and varioloid by Dr. J. M. Gemmill, and a brief report of a committee on the epidemics of New Jersey, Pennsylvania, Delaware and Maryland.

The *Seventh Annual Meeting* was held in Pottsville, May 31, 1854, at the Court House. Sixty-four are registered from the Counties of Berks, Blair, Bucks, Chester, Delaware, Huntingdon, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Perry. The death of Dr. H. S. Patterson, long the Secretary, was announced, and Dr. D. Francis Condie, Philadelphia County, was appointed to the vacancy.

A report from the committee on gratuitous vaccination of the poor was read, showing that the respective counties had charge of this matter, but urging the County Societies to exert their influence on the authorities to adopt prompt measures to extend the benefits of vaccination and to render it an imperative duty in those charged with the superintendence of the schools, public and private, to require before admission, a certificate from a physician of successful vaccination. The city of Philadelphia having been consolidated, the laws were so amended as to permit the Society of that county to adopt if expedient, any change of name so as to include the county and city.

Officers elected for the ensuing year: President, Dr. Jacob M. Gemmill, Huntingdon County; Vice-Presidents, Drs. Wilson Jewell, Philadelphia County; William Housel, Schuylkill County; E. W. Hale, Mifflin County; and A. K. Gaston, Chester County; Recording Secretaries, Drs. D. Francis Condie, Philadelphia County and Henry Carpenter, Lancaster County; Corresponding Secretary, Dr. John Neill, Philadelphia County; Treasurer, Dr. F. West, Philadelphia County. Hollidaysburg was selected as the place of meeting. A committee was appointed to consider the questions: Does dysentery prevail most in sections where iron is diffused in the soil? Do paralysis and other nervous affections prevail most where iron is diffused throughout the soil? Does the clearing off of timber tend to increase affections of the nerves and intestines?

County Societies were asked to state in their reports when limestone formations are believed to produce or modify diseases, whether the limestone lies near the surface or at a great depth; whether the water is impregnated with calcareous matter. The President and Secretary were again urged to endeavor to increase the number of County Societies. The Code of Ethics, Constitution and By-Laws were ordered printed in the volume of Transactions. Resolutions of regret were adopted relative to the deaths of Drs. H. S. Patterson, Francis S. Burrows and Joseph D. Steward. The Society adjourned to meet at Hollidaysburg, last Wednesday in May, 1855, at 10 A. M.

The volume reached 171 pages, consisting of Minutes, Address of President, reports from the Counties of Berks, Blair, Bradford, Chester, Delaware, Huntingdon, Lebanon, Lehigh, Mifflin, Montgomery, Perry, with a geological chart, Philadelphia, Schuylkill, the Code of Ethics, etc. The Publication Committee appear to have acted this year and the reports are in order.

The *Eighth Annual Meeting* was held in Hollidaysburg, at the Court House, May 30, 1855. The register shows the names of 72 delegates from the Counties of Berks, Bucks, Chester, Delaware, Huntingdon, Lancaster, Montgomery, Philadelphia, Schuylkill and Washington. While Philadelphia and the counties near it lose in numbers, the loss is more than made up by the infusion of new blood from Societies which were thus brought to the fold. This will be constantly observed in subsequent years a valuable result of the movement of the Society from place to place rather than holding session after session at one place, however it might be regarded as the seat of learning or of legislation. New Socie-

ties now come in. The following amendment to the Constitution was adopted, Article III, Section 2 to read: "The delegates to receive their appointment from the County Societies, provided that the officers of the Society and the Chairman of all committees who have reports to read shall be delegates ex-officio." Forms for county reports were adopted. Certain newspapers which had declined to insert advertisements of patent or quack medicines were commented upon and their patronage urged upon those members in their vicinity. A commission of three was appointed to investigate the quality of drugs manufactured in the United States.

The officers for the ensuing year were: President, Dr. James S. Carpenter, Schuylkill County; Vice-Presidents, Drs. J. Wishart, Washington County; P. Cassidy, Lancaster County; G. Emerson, Philadelphia County; and J. Schrack, Montgomery County; Recording Secretaries, Drs. H. Carpenter, Lancaster County and Alfred L. Kennedy,[3] Philadelphia County; Corresponding Secretary, Dr. T. H. Yardley, Philadelphia County; Treasurer, Dr. Robert P. Thomas, Philadelphia County. Philadelphia was selected as the place of meeting for the next year, last Wednesday in May, 1856, at 11 A. M.

The volume amounted to 160 pages, consisting of the Minutes, President's Address, reports from the Counties of Chester, Huntingdon, Schuylkill, Berks, Philadelphia, Lancaster, Blair, Delaware, Allegheny, Washington, Franklin, with an alphabetical index of the full contents.

The *Ninth Annual Meeting* was held in Philadelphia, May 28, 1856, at the Hall of the University (Department of Arts), at 11 A. M. The names of 83 delegates representing the Counties of Beaver, Berks, Bucks, Bradford, Cambria, Carbon, Chester, Delaware, Lancaster, Lawrence, Lebanon, Montgomery, Northampton, Philadelphia, Schuylkill and Washington were registered.

At this meeting abstracts not to exceed 8 pages were read from the reports of the County Societies. The legislature were asked to publish the Transactions of the Society. The first case of discipline for infraction of the Code of Ethics was a feature of this session. The subject of it had associated with irregulars in the faculty of the Penn Medical University. It was agreed to publish the Transactions in future in parts, paged continuously; each volume to consist of about 500 pages. Twenty-four counties are now organized. One great obstacle in the formation of Societies was the requirement that members must be graduates or a practitioner of at least 15 years. A resolution was adopted urging druggists to discontinue the sale of patent and quack medicines, and advising physicians to withhold patronage from those who do so.

The officers for the next year were: President, Dr. Rene LaRoche, Philadelphia County; Vice-Presidents, Drs. Wilmer Worthington, Chester County; Samuel Jackson (Spruce Street), Philadelphia County;[4] Oliver Cunningham, Beaver County; and George F. Horton, Bradford County; Recording Secretaries, Drs. A. L. Kennedy, Philadel-

[3] Dr. Kennedy was burnt to death early in 1896.

[4] NOTE.—Allusion was made to the similarity of names of the two Jacksons. Professor Jackson living on 8th Street was also often called Samuel Jackson of 8th Street, while Samuel Jackson, formerly of Northumberland, living on Spruce Street, was known as Samuel Jackson of Spruce Street.

phia County and Septimus A. Ogier, Chester County; Corresponding Secretary, Dr. Thomas H. Yardley, Philadelphia County; Treasurer, Dr. R. P. Thomas, Philadelphia County. West Chester was selected as the place of meeting for 1857.

The deaths of Drs. J. P. Hiester, C. O. Richards and E. S. Baer were noticed. A committee was appointed to confer with Life Insurance Companies or other public bodies on the subject of vital statistics. The Constitution was amended to allow of an appeal within three months from the action of a Society to the Censors of the District. A resolution was offered but rejected calling for a condensed history of the Society, the same to be revised once in five years. (A comment on the action of the Society at its session in 1895 requesting its Secretary to prepare such a work after the lapse of forty years). The Societies were recommended to appoint annual committees to prepare reports having reference to pathology, therapeutics, surgery, midwifery, etc., papers read before a Society to be reported at length, when of more than ordinary merit or interest, to the State Society. This year an excursion was made by 100 delegates, etc., to the Lazaretto, the quarantine grounds of the city, and an elegant banquet was served. The volume had 228 pages, having the usual matter with reports from the Counties of Berks, Blair, Bradford, Carbon, Chester, Huntingdon, Lawrence, Lebanon, Montgomery, Philadelphia, Schuylkill, Susquehanna, and two geological maps.

The *Tenth Annual Meeting* was held in West Chester, in the Chester County Court House, May 28, 1857, at 11 A. M.

There were registered 54 delegates from the Counties of Beaver, Berks, Blair, Carbon, Chester, Lancaster, Montgomery, Perry, Philadelphia, Schuylkill and Washington. Dr. Kennedy being absent, Dr. Henry Hartshorne, Philadelphia County, was appointed Secretary pro tem. Officers selected for 1858: President, Dr. John L. Atlee, Lancaster County; Vice-Presidents, Drs. John B. Biddle, Philadelphia County; Isaac Thomas, Chester County; Hiram Corson, Montgomery County; Boyd Emery, Washington County; Recording Secretaries, Drs. S. A. Ogier, Chester County and Henry Hartshorne, Philadelphia County; Treasurer, Dr. R. P. Thomas, Philadelphia County. Lancaster was selected as the place of meeting for 1858. The committee on vaccination reported that an efficient system of vaccination had been adopted in Philadelphia.

A committee was appointed to procure a supply of vaccine virus from the original source. The subject of requesting the American Medical Association to meet at longer intervals was discussed and referred to the County Societies. A plan for the record of practice so as to show the prevalence of disease was made, and the plan was referred to the Societies, thus hoping to secure a record of disease and mortality each year. The mode of extension of typhoid fever was made a special topic of inquiry by the Societies. In order to rouse the interest of the profession throughout the State, a committee was appointed to visit the counties where no organization exists, to explain the importance of such organizations, etc., the expense to be borne by the Society. Hon-

orable Mr. Hickman, of Chester County, was introduced and requested to explain the circumstances under which he was attacked by the recent epidemic at Washington, D. C. A complaint was made by the Publication Committee of the difficulty of obtaining funds, owing to the Societies not paying the assessment.

An excursion and entertainment was given to the Society from the Mansion House to the Brandywine Battle-field and to Osborne's Hill, Birmingham Meeting House, Chadd's Ford, etc. The volume for this year occupied 218 pages, consisting of Minutes, Address, report on vaccination and vaccine virus, and sanitary reports of the Counties of Beaver, Blair, Bradford, Chester, Perry, Philadelphia, Schuylkill, Washington and Montgomery. Lists of Carbon and Berks were printed at the end.

The *Eleventh Annual Meeting* was held in Lancaster, in Russell's Hall, May 26, 1858, at 11 A. M. The records show the presence of 36 delegates from the Counties of Beaver, Berks, Blair, Carbon, Chester, Lancaster, Montgomery, Philadelphia, Perry, Susquehanna and York. On account of the death of Dr. S. A. Ogier, one of the Secretaries, Dr. John K. Raub was appointed to the place. Several Societies were announced as having dissolved. Others were so reduced in numbers to necessitate a reduction of the number of volumes from 750 as formerly, to 625. The Indiana State Medical Society proposed an interchange of volumes by the local Societies. This was accompanied by such excellent arguments of the value of such a plan that it was agreed to. An effort was made by a few of the Philadelphia delegates to obtain permission to receive delegates from the defunct Philadelphia Medical Society which had been revived after a hiatus of years, thus giving to that county three societies. Opposition caused it to be laid over till next year. A valuable report on meteorology was presented by Dr. A. L. Kennedy, and a resolution was adopted instructing him to apply to the Smithsonian and Franklin Institutes for copies of records to aid in completing reports for this Society. It was agreed that three members should be appointed to represent this Society at Washington at the convention to revise the Pharmacopoeia in May, 1860. For the first time invitations were given the delegates to the residences of certain gentlemen in the evening. This was the beginning of what has now become a feature at every meeting of the State Society, and which has done much to add to the pleasure of these gatherings. The following were elected as officers for the ensuing year: President, Dr. Smith Cunningham, Beaver County; Vice-Presidents, Drs. Henry Carpenter, Lancaster County; Isaac Lefevre, Perry County; William Corson, Montgomery County; W. H. Kunkle, Chester County; Corresponding Secretary, Dr. Joseph Carson, Philadelphia County; Recording Secretaries, Dr. H. Hartshorne, Philadelphia County and John K. Raub, Lancaster County; Treasurer, Dr. Thomas. A Committee of Publication was specially selected consisting of Drs. A. L. Kennedy, William B. Atkinson, C. Percy LaRoche, of Philadelphia County. It was agreed that in future the meetings should be held the 2d Wednesday of June. Philadelphia was selected as the place for meeting in 1859.

The volume amounted to 127 pages, consisting of the Minutes, President's Address, reports from the Counties of Beaver, Berks, Blair, Carbon, Chester, Lebanon, Perry, Schuylkill and Susquehanna, with lists of officers and members of Lancaster, Philadelphia, the Constitution and Code of Ethics.

The *Twelfth Annual Meeting* was held in Philadelphia, at the Hall of the University of Pennsylvania (Department of Arts), at 11 A.M., June 8, 1859. The names of 93 delegates were recorded from the Counties of Beaver, Berks, Blair, Bradford, Carbon, Chester, Indiana, Lebanon, Lancaster, Mercer, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Union of Columbia and Montour, Susquehanna and York. All regular physicians present from counties not represented, and properly attested, were invited to seats. A program was presented for the sessions giving time of assembly and adjournment for each day. This also included visits to many places and evening entertainments and an excursion to Atlantic City on Friday. In the absence of Dr. Hartshorne, Dr. John P. Edge, Chester County, was elected to fill the place. Dr. Joseph Parrish, Superintendent of the school for feeble minded children, gave a very interesting exhibition of some pupils showing the great benefit obtained by exercise and proper management.

Biographical notices of Drs. John K. Mitchell, John H. Wier and Gavin Watson were received. The subject of Female Medical Colleges was brought up, an extract being read from the report of the Board of Censors of the Philadelphia County Medical Society. "In reply to the propositions embraced in the resolutions submitted for their opinion, the censors report that they would recommend the members of the regular profession to withhold from the faculties and graduates of Female Medical Colleges all countenance and support, and that they cannot consistently with sound medical ethics consult or hold intercourse with their professors or alumni."

The death of Dr. Benjamin S. Janney was announced. Resolutions were adopted deploring the death of Baron Alexander von Humboldt. The committee on vaccine virus from the original source reported they had distributed a supply to physicians in different portions of the State which had passed through only so many systems as to modify it for ordinary practice. A committee to whom had been referred the action of the Philadelphia County Medical Society on Female Medical Colleges, reported that the course pointed out was correct. The Committee of Publication were directed to insert on the title page of the forthcoming volume of Transactions before annual, the word "eleventh," so that it will read Transactions of the Medical Society of the State of Pennsylvania at its eleventh annual session, etc.[5]

The officers for the ensuing year were: President, Dr. D. Francis Condie, Philadelphia County; Vice-Presidents, Drs. C. T. Bliss, Bradford County; B. F. Schneck, Lebanon County; John Schrack, Montgomery County; and Edward Wallace, Berks County; Corresponding Secretary, Dr. Joseph Carson, Philadelphia County; Recording Secre-

[5] This was an error as this session was really the "*Twelfth*."

taries, Drs. John K. Raub, Lancaster County and John T. Carpenter, Schuylkill County; Treasurer, Dr. Thomas; Committee on Publication, Drs. Levi Curtis, A. L. Kennedy and William B. Atkinson. Philadelphia was selected as the next place of meeting.

The excursion to Atlantic City on Friday was enjoyed by a large number of the members and invited guests. A number embarked on a schooner and at 2 P. M. all were entertained at the Surf House with a banquet. The volume contained 120 pages, with the usual matter and reports from the Counties of Beaver, Bradford, Carbon, Indiana, Lebanon, Mercer, Montgomery, Perry, Philadelphia, Schuylkill and York.

The *Twelfth*[6] *Annual Meeting* was held in Philadelphia, June 13, 1860, at the Assembly Buildings. Again a program was presented at the outset providing for the assembly and adjournment of the sessions and entertainments for the delegates. There were registerd 72 delegates from the counties of Berks, Blair, Bradford, Carbon, Chester, Indiana, Lancaster, Montgomery, Perry, Philadelphia, Schuylkill, Susquehanna, Union of Columbia and Montour, and Westmoreland. Biographical notices of Drs. Janney, T. D. Mutter and H. Bond were presented. A gentleman from the Washington Home for Inebriates in Boston being present, was invited to give an account of that institution, after which resolutions were adopted declaring such an institution in Pennsylvania was desirable. The distribution of vaccine virus was reported on, and the committee was continued. The efforts to extend the organization of the profession in the State had been continued by the committee, it was decided to make further efforts by sending copies of the Transactions to prominent physicians where no Society existed.

Dr. Samuel D. Gross read a paper entitled "Prostatorrhoea," and was granted permission to publish it as having been read before this Society. It was also requested for Publication in the Transactions. This is one of the first, if not the first paper thus read, and gave an impetus to similar readings which finally made the Society what it now is, in place of the reading of apparently interminable reports from Societies. The importance of preliminay education for the study of medicine was presented by Dr. John Bell, Philadelphia County, and on his motion the following resolutions were adopted. Resolved, that the Medical Society of Pennsylvania would strenuously urge upon all physicians, within the limits of the State, to make a rigid inquiry into the preliminary education and intellectual fitness for the study of medicine of all those who may wish to enter their offices as private pupils, and to decline to receive those who have not the suitable qualifications.

Resolved, that it is earnestly recommended that the course of office reading and study be systematized by the preceptor, so as to enable the student to acquire a fair knowledge of 1. Materia medica, elementary chemistry and pharmacy, opportunities for which are afforded in the articles in the shop and on compounding them from prescriptions; 2. Anatomy, human and comparative, first from the skeleton, written de-

[6] See note on page 391.

scriptions, drawings and engravings, with occasionally assisting at a post mortem or the dissection of the unclaimed bodies of inmates of the almshouse or prison: the second by dissections of domestic animals, the denizens of the woods, the lakes and rivers; 3. Diagnosis and clinical medicine—by visiting the sick and infirm in a poorhouse, and the patients of his preceptor; 4. The mechanism of labor by demonstrations on the manikin, and engravings and drawings; 5. Elementary botany and vegetable physiology, specimens for the study of which are profusely furnished in the surrounding fields.

Resolved, that the preceptor is further recommended to ascertain by examinations of his pupils at stated and short intervals the progress being be made in the several studies. Among these should be included a history of medicine and the biographies of great men who have contributed to extend the boundaries of science and to enrich its resources for successful practice.

The Montgomery County Medical Society again opened the subject of Female Physicians with the following preamble alluding to the action of the Philadelphia County Medical Society, etc. Resolved, that it is with regret we feel ourselves, after full and free discussion of the subject, compelled to dissent from the action, etc., as we believe the time has come when females should not be excluded from the medical profession, and if properly educated and observant of the Code of Ethics, should receive the same treatment from members of our profession as the male members thereof.

Resolved, that we agree with the late President of the Philadelphia County Medical Society, that there is not any intrinsic reason why women should not perform a part of the toils of the art of healing, and that there are now three or four brilliant instances in the world of women who have justly attained high distinction in medicine, and that they achieved that distinction by means of establishment of high character; but after this admission we do not agree with him in his refusal to recognize our female graduates, simply because the college in which they were educated was not the most eminent of medical institutions. It is selfish and unjust to refuse them admission into our best medical colleges, and then, when by great sacrifice and perseverance, they have graduated at a college of their own establishing, and which compares favorably with many male colleges in different parts of the Union, withhold from them our recognition of their rightful rank as members of our profession, if they recognize and act in accordance with the Code of Ethics.

After this was laid on the table, Dr. Hiram Corson offered the following: Whereas, a difference of opinion prevails among the members of the State Society in relation to the meaning and binding force of its action relative to female practitioners and professors of female medical colleges, therefore, Resolved, that this Society does not forbid its members to consult with female practitioners merely on account of their sex nor with the professors of female medical colleges, simply because they are engaged in teaching the sex, but because the latter are irregular practitioners and the former have not been educated in regular medi-

cal colleges and do not conform to the Code of Ethics. When females shall be instructed by well qualified legitimate teachers and shall conform to the medical code established by the National Society, we will cheerfully accord to them all the courtesies and rights which we accord to male practitioners; therefore,

Resolved, that the State Society, by the approval which it gave to the action of the Philadelphia County Medical Society in relation to female physicians and the professors in female colleges, does not desire to be understood as adding a new article to the Code of Ethics, which shall be binding on the Societies in other counties, but simply to acknowledge the right of the Philadelphia County Medical Society to pass such a law for the government of its own members.

An active discussion ensued, the question still pending, the Society adjourned.

A communication from the American Medical Association was received as to its action on Criminal Abortion, and finally it was resolved that the subject of Criminal Abortion be referred to a committee of five with power to take such action in relation thereto as it may deem necessary and proper.

The resolutions offered by Dr. Corson were now taken up, when the following offered by Dr. Andrew Nebinger as a substitute, was accepted by Dr. Corson and unanimously adopted. Resolved, that it is the sense of this Society, that members of the regular profession cannot consistently with sound medical ethics, consult or hold professional intercourse with the professors or graduates of female medical colleges as at present constituted, inasmuch as some of the professors are irregular practitioners, and all of those colleges are ineligible to representation in the American Medical Association.

A committee was appointed to report on the proper physical education of young persons while pursuing their studies.

The officers selected for the ensuing year were: President, Dr. Edward Wallace, Berks County; Vice-Presidents, Drs. John Bell, Philadelphia County; George W. Allison, Beaver County; J. A. Landis, Blair County, and G. W. Lott, Columbia County; Recording Secretaries, Drs. J. T. Carpenter, Schuylkill County, and J. Henry Smaltz, Philadelphia County; Corresponding Secretary, Dr. Joseph Carson, Philadelphia County; Treasurer, Dr. Thomas. Pittsburg was selected as the place of meeting. A committee of five was appointed to make the arrangements for the meeting, and the society agreed to pay all incidental expenses, as for printing, room rent, stationery, etc. It was also resolved that the society protests in future against public receptions or entertainments, or any other arrangement calculated to divert attention from the objects of the meeting. It was agreed that the members pledge themselves to carry out the spirit of the resolution in the future. It was agreed that the President in future shall open the session with an address. It was agreed that office pupils of members of medical societies should be admitted to meetings of the societies. The volume reached 181 pages, containing the usual matter, the paper by Dr. S. D. Gross, on Prostatorrhea, a report on Meteorology, reports

from the counties of Beaver, Berks, Blair, Bradford, Chester, Indiana, Lancaster, Labanon, Mercer, Montgomery, Perry and Philadelphia. This series was completed with an index for the volumes for 1858, 1859 and 1860.

Owing to the unsettled condition of the country from the war to suppress the rebellion, the meeting in Pittsburg in 1861 was not called ; and after careful consideration, the Committee of Arrangements appointed at the last meeting concluded to issue a call for the Society to meet in Philadelphia, in June, 1862. The *Thirteenth Annual Meeting* was held at the University of Pennsylvania (Medical Department), Ninth Street above Chestnut, on June 11, at 11 A. M. The committee, through the Chairman, Dr. D. F. Condie, in the speech of welcome fully explained the reason for the omission, and the call to meet in Philadelphia rather than in Pittsburg. A program for the meetings and entertainments was presented. The record showed the names of sixty-one delegates and members, from the counties of Beaver, Berks, Blair, Bradford, Chester, Delaware, Huntingdon, Indiana, Luzerne, Montgomery, Perry, Philadelphia, Susquehanna, Union, and Westmoreland. We observe the names are arranged in alphabetical order, and the whole preparation of the minutes and the volume evinces conscientious work on the part of the Publication Committee.

Reports showed a positive decline not only in the societies, but in the number, though the treasury had no deficit. The Committee on Vaccination reported progress, the distribution of virus, and alluded at length to some moot points in regard to the subject. There was no reason to prevent vaccination at any season if the subject were of proper age. It was generally recommended to avoid the operation in the excessive heat or the reverse. Always vaccinate in the presence of variola. Revaccinate as a test. To keep up the supply it is well to insert a portion in the udder of a healthy cow, thus producing genuine vaccinia, etc. Employ the vaccine matter itself; but variolous matter would produce genuine and very active vaccine matter. This is not safe to use for infants. The question of propagating disease by vaccination is still a moot point.

A commissioner from the Medical Society of New Jersey was present, and three were appointed to represent the State Society of Pennsylvania at the next meeting of the New Jersey Society.

An invitation from the Camden and Atlantic Railroad to visit Atlantic City was offered, but declined, owing to the want of time to accept.

The officers for the ensuing year elected were: President, Dr. George F. Horton, Bradford County; Vice-Presidents, Drs. Traill Green, Northampton County ; Isaac Thomas, Chester County ; Franklin Bache, Philadelphia County, and John F. Lamb, Philadelphia County ; Corresponding Secretary, Dr. Carson ; Recording Secretaries, Drs. J. Henry Smaltz, Philadelphia County, and Joseph M. Stevenson, Westmoreland County ; Treasurer, Dr. William Mayburry, Philadelphia County. Philadelphia as the place of meeting second Wednesday in June, 1863. Amendments to the Constitution were adopted to permit

of permanent members, so that a delegate after being present at a meeting was henceforward a permanent member so long as in good standing in his county society, with all the rights, etc., of delegates, save holding office. Also to permit any living in a county where no society exists to join that of a neighboring county till one can be organized in his own county. Efforts to promote the increase in membership and of county societies were made by instructing counties to act in this matter and take steps for such work in adjacent counties. A Committee on a Daily Medical Gazette was appointed. The society was entertained at the Cooper Shop and the Union Refreshment Saloons, where visits had been made in order to witness the work of the citizens in caring for the Volunteers when passing through the city to and from the seat of conflict.

The volume numbered 162 pages, giving the Minutes, Address, reports for the counties of Beaver, Berks, Bradford, Chester, Delaware, Huntingdon, Indiana, Luzerne, Mercer, Montgomery, Perry, Philadelphia, Westmoreland and Lancaster, the Constitution, standing resolutions, Presidents of the Society, and the permanent members.

The *Fourteenth Annual Meeting* was held in Philadelphia, June 10, 1863, at the University of Pennsylvania (Medical Department). The register gives the names of seventy-one members, including three registered as permanent members, two representatives from the New Jersey Society, and one from New York Medical Society. The counties represented were Armstrong, Beaver, Berks, Blair, Bradford, Chester, Delaware, Huntingdon, Indiana, Lancaster, Lebanon, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna and Westmoreland. A resolution was adopted asking legislation in favor of the study of anatomy by dissection. The societies were asked to aid by using their influence with their legislators. A resolution was adopted making a Permanent Secretary, who shall be elected from this session, and every five years thereafter. This made four secretaries. Dr. Hiram Corson was permitted to add to the report of his county society " some general statistics of over 2000 obstetrical cases, with remarks relative to them."

The edition of the volume now was but 500 copies. Reports from the gentlemen who had undertaken the organization or revival of the medical societies showed success in the counties of Allegheny, Lehigh, Northampton, Delaware and Armstrong. The death of Dr. William Darlington was feelingly alluded to. The plan of having the members of each county society act to promote organization in neighboring counties was continued, and the work of each carefully assigned, so as to show each society the work expected of it. The officers elected for the ensuing year were: President, Dr. Wilson Jewell, Philadelphia County; Vice-Presidents, Drs. J. D. Ross, Blair County; Manly Emanuel, Delaware County; Charles Shoemaker, Montgomery County, and Wilmer Worthington, Chester County; Corresponding Secretary, Dr. Andrew Nebinger, Philadelphia County; Permanent Secretary, Dr. William B. Atkinson, Philadelphia County; Recording Secretaries, Drs. J. M. Stevenson, Westmoreland County, and Winthrop Sargent,

Philadelphia County; Treasurer, Dr. William Mayburry, Philadelphia County. Philadelphia was selected as the next place of meeting. The volume comprised nearly 200 pages, consisting of the usual matter, and reports from the counties of Beaver, Berks, Blair, Bradford, Bucks, Carbon, Chester, Huntingdon, Indiana, Lehigh, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna and Westmoreland. This, with the preceding and succeeding volumes are paged consecutively, and the three indexed accordingly.

The *Fifteenth Annual Meeting* was held in Philadelphia, June 8, 1864, at the Hall of the College of Physicians; and after a statement by the Permanent Secretary, that the American Medical Association met in New York at the same time, it was resolved to adjourn the society until Wednesday, June 15th.

The society assembled June 15th, at 11 A. M. The register shows the names of eighty-six members, delegates and representatives from the counties of Beaver, Berks, Blair, Bradford, Bucks, Carbon, Chester, Delaware, Huntingdon, Indiana, Lancaster, Lehigh, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Union and Westmoreland, and the State Medical Societies of New Jersey and New York. The usual program was presented of time for holding the sessions, and invitations to places of public interest, to all which admission was obtained by presentation of the card of membership. Tickets were furnished to the Great Central Fair in aid of the Sanitary Commission.

The report of the Committee on the Physical Education of the Young was presented, and with a paper by Dr. Hiram Corson on the Use of Ice and Ice Water in Diseases, was referred to the Committee on Publication.

It was resolved that the abstracts from the county reports should be reduced to three pages. The officers elected for the ensuing year were: President, Dr. J. D. Ross, Blair County; Vice-Presidents, Drs. J. Galbraith, Perry County; William Anderson, Indiana County; J. M. Stevenson, Westmoreland County, and J. S. Rich, Bucks County; Drs. Nebinger as Corresponding Secretary; Recording Secretaries, Drs. W. Sargent, Philadelphia County, and I. Newton Evans, Montgomery County; Treasurer, Dr. Mayburry; Committee of Publication, Dr. William B. Atkinson, Chairman; D. F. Condie, and J. H. Smaltz, Philadelphia County. Altoona was selected as the place of meeting.

For this meeting *free* return passes were issued to the members by the Pennsylvania Railroad. The second Wednesday in June was selected as the day for the meeting in 1865. The volume consisted of 211 pages, containing in addition to the usual matter reports from the counties of Beaver, Blair, Bradford, Bucks, Carbon, Chester, Huntingdon, Indiana, Lehigh, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna and Westmoreland. Many of the reports abound in valuable matters in relation to general practice, etc. Perhaps one of the most important is the paper by Dr. Corson, on Ice in Disease. The reports of the Philadelphia Society invariably were full of valuable ideas from the best men of the day. Particularly

was the subject of so-called "spotted fever" a matter of report, it then being little known, its pathology doubtful, its treatment more so. Carefully prepared sketches of the lives of Drs. William Heyward Gillingham, Antoine Bournonville, Joseph H. Haskell, and J. M. Pugh, may be found in this volume.

The *Sixteenth Annual Meeting* was held in Altoona, June 14, 1865, at 10 A. M., in the Presbyterian Church. There were forty-nine persons registered, from the counties of Allegheny, Armstrong, Beaver, Berks, Blair, Clearfield, Indiana, Lancaster, Lehigh, Luzerne, Lycoming, Northampton, Perry, Philadelphia and Westmoreland, and the Medical Societies of New York and New Jersey. The number of copies of the Transactions had been increased to 650. An amendment was adopted making the Committee of Arrangements to consist of five members from the county in which the session was to be held. Remarks were made upon opium and its properties, and a paper on Ulcerative Inflammation of the Spinal Column was read by Dr. Benjamin Lee, who was introduced to the Society, and one on Inoculation in Pennsylvania, by Dr. J. M. Toner, of Washington, D. C. It was resolved that the members be encouraged to prepare brief papers to read before the Society, and a committee was appointed to select such as they deemed proper to present to the Society at its sessions. The Committee on Daily Medical Gazette having lost its Chairman by death was discharged.

The officers elected for the ensuing year were: President, Dr. William Anderson, Indiana County; Vice-Presidents, Drs. N. L. Hatfield, Philadelphia County; R. B. Mowry, Allegheny County; James McConaughey, Westmoreland County, and J. A. Landis, Blair County; Corresponding Secretary, Dr. Augustin H. Fish, Philadelphia County; Recording Secretaries, Drs. I. Newton Evans, Montgomery County, and J. R. Lewis, Luzerne County; Treasurer, Dr. Mayburry. Kingston, Luzerne County, next place of meeting.

Dr. H. R. Storer, Boston, Massachusetts, being present, addressed the Society by request, on Puerperal Peritonitis.

The volume includes 292 pages, reports from the counties of Allegheny, Armstrong, Beaver, Blair, Bradford, Bucks, Chester, Columbia and Montour, Delaware, Huntingdon, Indiana, Lehigh, Luzerne, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Berks, Schuylkill, Susquehanna and Westmoreland; Inoculation in Pennsylvania, by Dr. Joseph M. Toner, Washington, D. C.; The Uses of Opium in Shock, Reaction and Inflammation, by Edmund F. S. Arnold, Yonkers, N. Y.; Report on Physical Education, by Dr. John Bell, Philadelphia; and the usual addenda.

Perhaps this was the most valuable volume yet issued, and marks progress toward the present plan of reading papers on important subjects of interest in the form of abstracts not exceeding ten minutes' time.

The *Seventeenth Annual Meeting* was held at Wilkes-Barre, June 13, 1866, at the Masonic Hall. It was evident that the Committee on Nominations were in error in designating Kingston as the place of

meeting, as Wilkes-Barre, on the other side of the river, in the same county, was far preferable by reason of its hotels, etc. The register shows the presence of sixty-nine delegates, members and representatives from the counties of Allegheny, Berks, Blair, Bradford, Bucks, Carbon, Columbia and Montour, Dauphin, Lehigh, Lancaster, Lycoming, Luzerne, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Wayne, Westmoreland, and the State of New York.

A committee was appointed to urge the Legislature to enact a law to suppress empiricism. Resolutions were adopted expressing regret that the faculties of the medical colleges to a certain extent kept aloof from the county societies, and calling upon them to join, and asking that no professor be received as a delegate by the American Medical Association who is not a member of his county society.

The subject of female physicians was again brought up by a communication from the Corporators and Faculty of the Female Medical College of Pennsylvania, embodied in a resolution, asking the rescinding of the resolution opposing the recognition of the graduates and professors of these colleges. Pending action the Society adjourned for the morning.

Dr. George Fox, a founder of the Society, and its first Treasurer, being present, was invited to a seat on the platform.

The matter of female physicians was brought up, and after some discussion the motion to recind was lost by a vote of ayes 23, nays 27.

Dr. J. Solis-Cohen then gave a lecture on the Use of the Laryngoscope. The subject of female physicians and their recognition was referred to the county societies. The Secretary was directed to bring to the notice of the faculties of the several colleges the resolution as to membership in the county societies. The subject of provision for the insane was brought up by Dr. John Curwen, who presented the following, adopted by the Association of Medical Superintendents of Insane Asylums:

1. Every State should make ample provision for all of its insane.

2. That insane persons considered curable, and those supposed incurable, should not be provided for in separate establishments.

3. The large States should be divided into geographical districts of such size that a hospital situated at, or near the centre of each district, will be practically accessible to all the people living within its boundaries, and available for their benefit in cases of mental disorder.

4. All State, county and city hospitals for the insane should receive all persons belonging to the vicinage designed to be accommodated by each hospital, who are affected with insanity proper, whatever may be the form or nature of the bodily disease accompanying the mental disorder.

5. All hospitals for the insane should be constructed, organized and managed substantially in accordance with propositions by the Association.

6. The classification, or ward separation possessed by each hospital, should equal the requirements of the different conditions of the several classes received by such institutions, whether these different conditions are mental or physical in their character.

These were cordially endorsed by the State Society, and the societies were asked to make a careful examination of the insane of their counties, and report at the next session.

A proposition to encourage the study and practice of specialties was discussed and negatived. Congress was urged to make the needed appropriation for the publication of the surgical and medical history of the war of the rebellion. It was announced that the sum of twenty-five dollars had been placed in the hands of the Treasurer, as a prize for the best essay on any subject pertaining to medicine or surgery, and it was agreed that a committee Drs. James King, R. B. Mowry and Traill Green should act at the meeting in Pittsburg next year to decide as to its award.

The officers elected for the ensuing year were: President, Dr. James King, Allegheny County; Vice-Presidents, Drs. George Urquhart, Luzerne County; J. E. Singer, Perry County; John Curwen, Dauphin County, and E. P. Allen, Bradford County; Corresponding Secretary, Dr. W. Sargent, Philadelphia County; Recording Secretary, Dr. John Semple, Allegheny County; Treasurer, Dr. Mayburry. It will be observed that there are but three Secretaries in place of four. The main work appears now to fall upon the Permanent Secretary. Again the railroads granted free return passes to the members, as appears by the resolution of thanks to the North Pennsylvania, Lehigh Valley, Lackawanna & Bloomsburg, and Pennsylvania Central roads.

The volume has 150 pages—minutes, address, reports of the counties of Allegheny, Armstrong, Berks, Blair, Bradford, Bucks, Carbon, Dauphin, Indiana, Lehigh, Luzerne, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna and Westmoreland, and the usual addenda. An obituary notice of Dr. Robert P. Thomas, late the Treasurer, is presented with the report of the Philadelphia County Medical Society.

The *Eighteenth Annual Meeting* was held in Pittsburg, June 12, 1867, in Lafayette Hall, at 4 P. M. The change of hour was made to accommodate those from a distance. There were registered 106 members and delegates, from the counties of Allegheny, Berks, Beaver, Blair, Bradford, Bucks, Butler, Clarion, Chester, Cambria, Cumberland, Crawford, Dauphin, Erie, Indiana, Lancaster, Luzerne, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Venango, Washington and Westmoreland. A representative from the Ohio State Medical Society was present. The list of permanent members shows a decided increase as to attendance. The subject of care of the insane again occupied the attention of the Society. Dr. Curwen offering the following: *Resolved*, That a committee of five members be appointed to prepare a memorial to the Legislature, setting forth the number and condition of the insane of this Commonwealth, and the urgent necessity for more extended means for their proper care and treatment. In order to more effectually carry out this purpose this Society would very respectfully, but most earnestly urge that the means be furnished for the early completion of the Western Pennsylvania Hospital for the Insane Poor of the Western District, and also

that another hospital for the insane of the district lying north of a line running east and west through the junction of the North and West Branches of the Susquehanna River, and east of the Allegheny Mountains, be commenced without delay; and they would also urge the commencement of a hospital for the insane of the district lying north of the West Branch of the Susquehanna, and between the western slope of the Allegheny Mountains and the Susquehanna River and the Blue Ridge, at the earliest practicable period; and that these hospitals be built in strict conformity with the propositions for the construction of hospitals for the insane adopted by the Association of Medical Superintendents of the American Institutions for the Insane in 1851 and 1852.

Papers and remarks on veratrum viride and digitalis, and on food for infants, were read, and referred for publication. The Committee on Essays reported that they had awarded the prize of twenty-five dollars to the author of a paper on "Hypodermic Injections," etc. The seals having been broken, the author was announced as Jean Baptiste Ullersperger, of Munich, Bavaria, Germany. It was decided that this should be printed, as written, in the French language, with an English translation. In this connection it may be stated that the essay was translated by Dr. Charles F. Wittig, of Philadelphia, who courteously asked the aid of Dr. William B. Atkinson. The result is seen at page 387 of this volume. A paper on Diagnosis of Arthro-Chondritis was offered by Dr. Benjamin Lee, and referred to the Committee on Publication. Resolutions referring to the use of intoxicating liquors by physicians in medicine, urging the members to oppose their use, etc., were offered and discussed; but much opposition having been shown, no final action was taken on them.

The special business of hearing the reports from the county societies, relative to the recognition of female practitioners, was taken up, and the reports were read, showing eight opposed to it, five in favor—thirteen took no action. Finally, the whole subject was laid upon the table. A further appeal of the Female College of Pennsylvania was presented, and laid upon the table, by a vote of forty-nine to thirty-three.

The officers for the ensuing year were: President, Dr. Traill Green, Northampton County; Vice-Presidents, Drs. Andrew Nebinger, Philadelphia County; J. L. Stewart, Erie County; W. W. Rutherford, Dauphin County, and G. W. Haldeman, Cumberland County; Corresponding Secretary, Dr. W. Sargent, Philadelphia County; Recording Secretary, Dr. S. S. Shultz, Dauphin County; Treasurer, Dr. Mayburry. This year, by making the Permanent Secretary Chairman of the Committee on Publication, he was enabled to adopt several plans in the publication which he had often urged in vain upon his associates. Harrisburg was selected as the place of meeting. Dr. A. H. Gross, of Allegheny County authorized the Permanent Secretary to draw on him for the sum of one hundred dollars to pay for the best prize essay offered.[7]

[7] No essays having been offered, this was not drawn upon. Dr. G. died a few years later.

The volume amounted to 344 pages. It included the minutes, address, reports of the counties of Allegheny, Beaver, Berks, Blair, Bradford, Bucks, Cambria, Chester, Crawford, Dauphin, Erie, Lancaster, Lehigh, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Washington and Westmoreland; the Essay, which occupied 155 pages alone, etc.

The index for the three volumes shows a large amount of valuable matter, and that the work of the Society was steadily improving in quality and quantity.

The *Nineteenth Annual Meeting* was held in Harrisburg, June 10, 1868, in the House of Representatives, at 4 P. M. There were registered 103 members and delegates. At this session the censorial districts were arranged to meet the needs where hitherto several districts had been united. Greetings were exchanged with the State Society of Delaware, in session in New Castle. A proposition was made to ask the Legislature for an appropriation to aid in publishing the Transactions; a committee was appointed with instructions to make arrangements for a charter, if needed. The subject of certificates in insanity was brought up by Dr. Curwen, and a resolution adopted to appoint a committee of five to urge upon the Legislature the propriety of enacting a law which shall so determine the relations of the insane as to protect the profession in giving certificates of insanity, the insane from improper influences, and the community generally from injustice and oppression.

Dr. Washington L. Atlee again brought up the matter of female physicians by a preamble and resolution to repeal the former action against these practitioners. The effort was defeated by a vote of thirty-eight to forty-six.

The Standing Committee reported the reception of two papers: "Diagnosis, Positive and Differential of Spinal Arthrochondritis," by Dr. Benjamin Lee, of Philadelphia; and "Food for Infants," by Dr. Hiram Corson, of Montgomery County; but there had been no contest for the prize offered last year. These papers were referred to the Committee on Publication. The Committee on Legislation for Additional Insane Asylums reported success, the Legislature having passed a bill for one hospital. The number of volumes of the Transactions for the last year was 1000, a very decided increase. The delegates to the American Medical Association reported that the association rejected the amendment forbidding the admission of professors of colleges who were not members of their local societies. On motion of Dr. Joseph Parrish, a committee was appointed to report on the medical, social and civil aspects of intoxication by alcohol and opium, and our duty as physicians in the premises. Again Dr. H. Corson brought up the subject of stimulation, and the relation of the profession to this system, which, after some discussion, was referred to a committee to report next year. A committee on the obtaining legislation to have an inspector of drugs for the State was appointed. The subject of Criminal Abortion was discussed, and a committee appointed to properly present the matter before the next meeting. A great move toward the im-

proving of the meetings of the Society was made by the adoption of a motion that the members be requested to prepare short papers on matters connected with the practice of medicine, surgery, or obstetrics, to be read at the next meeting of the Society. The officers elected for the ensuing year were: President, Dr. John Curwen, Dauphin County; Vice-Presidents, Drs. W. M. Wallace, Erie County; J. G. Koehler, Schuylkill County; Peter B. Breinig, Northampton County, and Jacob Price, Chester County; Corresponding Secretary, Dr. A. H. Fish, Philadelphia County; Recording Secretary, Dr. James L. Stewart, Erie County; Treasurer, Dr. Mayburry. Although the Permanent Secretary was elected for five years, yet each time the committee on nominations reported his name as if re-elected. He was still continued as Chairman of the Committee on Publication. Justice demands the notice that the work of preparing the volumes for the printer, reading the proof, etc., was almost wholly confided to him. Erie was selected the place of meeting in 1869. A resolution was adopted appointing Drs. T. S. Kirkbride, of the Pennsylvania Hospital for the Insane; Joshua H. Worthington, of the Frankford Asylum; R. A. Given, of the Clifton Hall; John Curwen, of Harrisburg Insane Asylum, and Jos. A. Reed, of Dixmont Asylum, to prepare an address on the legal and medico-legal definitions of insanity, with counsel to physicians as to how to diagnosticate it in private practice, and how to proceed wisely in procuring admission of patients to the several institutions over which they preside so successfully, and to publish the address in the medical journals and in the public papers, if they deem it proper to do so, at as early a day as may be convenient. The roads again granted special favors to the delegates. The volume amounted to 250 pages, giving the officers, minutes, the memorial to the Legislature for an additional insane hospital, the Act establishing this hospital, President's address, reports from the counties of Allegheny, Beaver, Berks, Blair, Bradford, Bucks, Columbia and Montour, Crawford, Cumberland, Dauphin, Delaware, Erie, Indiana, Lancaster, Lehigh, Luzerne, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Venango, Washington and Westmoreland; Food for Infants, by Hiram Corson; on Spinal Arthrochondritis, by Benjamin Lee; and the usual addenda.

The *Twentieth Annual Meeting* was held in Erie, June 9, 1869, at 4 P. M., in the Court House. In addition to the program, entertainments were announced for a reception by Captain Jouett, U. S. Navy, on the U. S. S. Michigan, banquet at the Reed House, excursion on Friday on Lake Erie on the steam and pleasure yachts, with a collation at Crystal Point. There were registered 125 members and delegates, from the counties of Allegheny, Beaver, Berks, Blair, Bradford, Bucks, Butler, Clarion, Columbia and Montour, Crawford, Cumberland, Dauphin, Delaware, Erie, Fayette, Indiana, Lancaster, Luzerne, Lycoming, Montgomery, Northampton, Philadelphia, Schuylkill, Susquehanna, Tioga, Venango, Washington and Westmoreland. The report of the Committee on Enactment of a Law Relating to the Admission of Patients into Insane Hospitals was received, the committee was discharged, and the report referred for publication. Dr. Samuel D. Gross

read a report on Nurse Training, which had been referred by the American Medical Association to the several State societies. It was referred for publication. The Permanent Secretary presented the following from the American Medical Association. A special committee had reported on medical education, which report was referred to the several state societies as follows:—

"*Whereas*, The history of medical legislation in the various States clearly shows that no reliance can be placed upon the uniformity or permanency of laws relating to practice of medicine; and,

Whereas, The results of all efforts during the last twenty-five years to elevate the standard of medical education, through concert of action among the numerous medical colleges, have proved that such concert is unattainable.

Resolved, That whatever is done to establish and maintain a just and fair standard of medical education throughout our whole country must be done by the profession itself, through its own voluntary organizations, in the same manner that it now establishes and enforces its Code of Ethics. The profession is competent to declare through its representatives in the national, State and local societies what shall be the standard of attainments for those to be recognized and admitted to its ranks, and to establish the boards or agencies by which compliance with such standard shall be ascertained, as it is to declare what shall be the ethical rule governing the conduct of those already admitted.

Resolved, That this Association earnestly requests each State Medical Society to appoint annually one or more Boards of Examiners, composed of five thoroughly qualified members, whose duty it shall be to meet at suitable times and places for the examination of all persons, whether graduates or not, who propose to enter upon the practice of medicine in their respective States, except such as have been previously examined and licensed by a similar board in some other State.

Resolved, That each State Medical Society be requested to make such regulations concerning the pay of the Board of Examiners, and the fee to be charged for the license to practice, that the former shall in no case depend on the amount received for the latter.

Resolved, That each State Medical Society be requested to require its examining board or boards to exact of every applicant for examination adequate proof that he has a proper general education, is twenty-one years of age, and has pursued the study of medicine three full years, one-half of which time shall have been in some regularly organized medical college, whose curriculum embraces adequate facilities for didactic, demonstrative and hospital clinical instruction.

Resolved, That each State Medical Society be requested to act on the foregoing propositions at the next regular annual meeting, after the reception of copies of the same, and if approved and adopted by the State Medical Societies of two-thirds of the States, this Association shall deny representation from all organizations who longer refuse to comply with the same, and shall recommend the State societies to do the same. And all persons who after that date seek to enter upon the practice of medicine without first receiving a license from some State

Board of Examiners, shall be treated ethically as irregular practitioners.

Resolved, That in adopting the foregoing resolutions, by which it is proposed to treat the medical college diploma the same as the diploma of any literary college, this Association is actuated by no desire to injure the medical schools of our country. On the contrary, by the adoption of the fourth resolution, at the same time that the value of the mere college diploma is practically nullified, it is the desire and confident expectation that those institutions will be greatly benefitted, because they will be forced to rival each other in the extent and efficiency of their courses of instruction, instead of the number of diplomas which they can annually sign.

N. S. Davis, Paul F. Eve, E. S. Gaillard, E. Lee Jones, J. K. Bartlett, Committee."

This was referred to a committee to report at the session in 1870.

Committee: Drs. W. H. Egle, S. D. Gross, J. S. Crawford, James King and J. L. Stewart.

This year the edition of the Transactions reached 1000 copies. The report on Criminal Abortion was regarded as of such value that 5000 copies were ordered to be printed for distribution to the county societies and to the clergy in the State. A committee on charter for the society reported, this was adopted, and the committee continued to obtain a charter for the society. The registration of all regular practitioners in the State was urged upon the county societies, a report to be made each year to the President. A charge against two professors of the State was presented from the New Jersey State Medical Society, and was replied to by one who was present at this meeting, the explanation was deemed sufficient. Again the subject of prohibiting the attendance at schools of unvaccinated pupils was brought up, and a committee was appointed to obtain legislation in this matter. Papers on Rupture of the Uterus, on Monstrosities, on Curvature of the Spine, and on the Use of Stimulants by the Profession, were presented, and referred to the Committee on Publication. Again the physicians of those counties where no society existed were urged to remedy this. The excursion on the lake was postponed, owing to the prevalence of a severe storm.

Officers elected for the ensuing year: President, Dr. W. M. Wallace, Erie County; Vice-Presidents, Drs. William R. Findlay, Blair County; William H. Pancoast, Philadelphia County; Oliver P. James, Bucks County, and Alexander M. Pollock, Allegheny County; Recording Secretary, Dr. A. H. Fish, Philadelphia County; Corresponding Secretary, Dr. Laurence Turnbull, Philadelphia County; Permanent Secretary, Dr. W. B. Atkinson, Philadelphia County; Treasurer, Dr. Mayburry. Representatives were elected to the State Societies of New Jersey, New York, Ohio, Massachusetts, Connecticut, Delaware, West Virginia, and Indiana. Philadelphia to be the place for the next meeting. The volume amounted to over 300 pages. In addition to the usual matters were reports on Intemperance as a Disease, on the Admission of Patients to Insane Asylums, on the Inspection of Drugs, on the Training of Nurses, papers on Rupture of Uterus, Use of Stimu-

lants by the Profession, A New Instrument for Treatment of Lateral Curvature of the Spine, illustrated with plates; reports from the counties of Allegheny, Beaver, Berks, Blair, Bradford, Bucks, Butler, Cambria, Chester, Clarion, Columbia and Montour, Crawford, Cumberland, Dauphin, Delaware, Erie, Fayette, Indiana, Lancaster, Lehigh, Luzerne, Lycoming, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Venango, Washington and Westmoreland, and the form for a charter.

The *Twenty-first Annual Meeting* was held in Philadelphia, June 8, 1870, in the Hall of the College of Physicians, northeast corner Thirteenth and Locust Streets, at 11 A. M. The program presented was quite a large one, and as an evidence of the progress now making it is reproduced.

The Society to meet at 10.30 A. M., and adjourn at 2 P. M., meet again at 4, and adjourn at 6.30 P. M. Entertainments and receptions during the session. Wednesday, June 8th, 7.30 P. M., Exhibition of Objects by the Gas Microscope, at Jefferson Medical College, Tenth Street above Walnut, by Prof. J. A. Meigs and Drs. J. Gibbons Hunt and W. W. Keen. Exhibition of Objects by Polarized Light, by Prof. B. H. Rand. 9.30 P. M., Reception by Prof. Ellerslie Wallace, 1130 Spruce Street.

Thursday, June 9th, 1.30 P. M., entertainment at the house Dr. Benjamin Lee, 1503 Spruce Street, with exhibition of apparatus for Treatment of Spinal and other Deformities. 7 P. M., collation at the University of Pennsylvania, Ninth Street above Chestnut, followed by Exhibition of Electrical, Magnetic and other Experiments, by Prof. R. E. Rogers, assisted by Dr. G. M. Ward. Experiments in Acoustics, by Dr. J. Solis-Cohen. 9.30 P. M., reception by Dr. William H. Pancoast, President of the Philadelphia County Medical Society, southwest corner Eleventh and Walnut Streets.

Friday, June 10th, 7.30 P. M., exhibition of Microscopes and Microscopic Objects, by the Biological and Microscopical Section of the Academy of Natural Sciences, at the College of Physicians. 9.30 P. M., promenade concert and banquet at the Girard House, under the auspices of the Philadelphia County Medical Society.

The register shows the names of 178 delegates, members and representatives from the counties of Allegheny, Beaver, Berks, Blair, Bradford, Bucks, Cambria, Chester, Clarion, Crawford, Columbia and Montour, Cumberland, Dauphin, Delaware, Fayette, Franklin, Greene, Indiana, Juniata, Lancaster, Lehigh, Lycoming, Luzerne, Mercer, Montgomery, Northampton, Perry, Philadelphia, Schuylkill, Susquehanna, Tioga, Venango and Washington, New York and New Jersey. The Mayor, Daniel M. Fox, invited the Society to witness a review of the police force at Logan Square. Dr. Addinell Hewson invited the members to visit the Pennsylvania Hospital, to observe the results of the earth treatment of wounds. The Committee on Incorporation reported certain technical objections of the Courts to the granting a Charter to the Society. The idea of being incorporated was then abandoned, and the Charter as far as appropriate was adopted as the Constitution of the

Society. It was substantially as before, with a few unimportant changes.

Occasional troubles with the members of the county societies were brought before the Society, but generally they were referred to the local body; or by a little effort on the part of mutual friends, were quietly adjusted. One constant difficulty was the membership in county societies of those who, keeping drug stores, dealt more or less in patent medicines and nostrums. One cannot help observing how often in all parts of the State this matter was gotten over, the offender selling out at a good profit, thus no longer sinning against the ethics, though profiting by the former transgression. Nor is this a cause of marvel. In the good old times the buccaneer, or what not, retired from business, and was everywhere received because of his ability to live well, etc. At the present we find it a very judicious plan to take a man as we find him, nor inquire into his antecedents, or whence came his money. Again it was proposed that hereafter all public entertainments should be dispensed with, in place thereof an annual dinner was proposed, for which each should pay a subscription. The subject of vaccination was again brought up, and its protective powers endorsed. Dr. W. H. Gobrecht, of Ohio, gave an account of a case of attempted poisoning by strychnia in chloroform, showing its antidotal effect. A committee to report on the opium habit, etc., was appointed. It was agreed that all those who are no longer in affiliation with their county societies should be dropped from the roll of permanent members. It was also agreed that the names and residences of all the officers and members of county societies should be printed at the end of the volume in alphabetical order, so that it may form a directory of the profession of the State. Again the subject of female practitioners was brought forward. Dr. Washington L. Atlee offering a preamble and resolution to withdraw the objections as formerly adopted. After much discussion, etc., the matter was laid upon the table until the American Medical Association shall have decided upon it, this by a vote of sixty-two ayes to forty-eight nays.

Dr. W. B. Atkinson offered the following, which was unanimously adopted:—

Whereas, At the meeting of the American Medical Association, held at Washington, the following were unanimously adopted:

"*Whereas*, Hospitals in their primary design were provided for the sole purpose of the cure and relief of the sick and afflicted; and,

"*Whereas*, Medical instruction, where it is given in them, has been engrafted thereupon at the instance and by the voluntary agency of the physicians and surgeons, who, at the cost of much additional labor and inconvenience, have liberally devoted to this subject their talents and their time; and,

"*Whereas*, Furthermore, it is through the instrumentality alone of a profession which is doing far more for suffering humanity than any other class of the community, that they are enabled to accomplish the benevolent objects of their establishment, it is therefore

"*Resolved*, As the judgment of the American Medical Association that while all that relates to the general management of hospitals, the ac-

commodation, board, comfort, etc., of the patients, appertains legitimately to the managers of those institutions, the subject of medical instruction is properly neither within their province nor within that of the contributors, but in right and in courtesy belongs with all its accidents exclusively to the medical staff, by which, in the laudable desire to make such charities tributary to the diffusion of professional knowledge, and thus of accomplishing the utmost good of which they are capable, it was originally begun, and so far as they are concerned, has been gratuitously given, the fees to which the lecturers are justly entitled having in many instances, if not all, been generously relinquished to the hospitals, with the view of founding libraries or extending in some other way their capacity for usefulness.

"*Resolved*, That it be recommended to the societies in connection with this Association to take such measures as they may deem expedient to promote just views of the relations which should exist between the medical staff and managers of hospitals, and of the obligations which they reciprocally involve," it is therefore

Resolved, In accordance with the recommendations of that Association this Society reaffirms the sentiments contained in the above preamble and resolutions, as a just and proper assertion of the rights, dignity and independence of the profession.

It was directed that a copy of these be sent to the managers of each of the hospitals in the State.

Officers for the ensuing year: President, Dr. Samuel D. Gross, Philadelphia County; Vice-Presidents, Drs. Joseph Parrish, Delaware County; William R. DeWitt, Dauphin County; Thomas R. Hull, Columbia and Montour Counties; and George D. Bruce, Allegheny County; Corresponding Secretary, Dr. Turnbull; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. J. P. McVicker, Lycoming County; Treasurer, Dr. Mayburry. Next place of meeting Williamsport, second Wednesday in June, 1871.

A compound craniotomy instrument was exhibited by Dr. R. L. Sibbet, of Cumberland County.

The volume included 216 pages. In addition to the usual matter and reports from county societies there were reports of the committee on a Law Compelling Vaccination, on Inspection of Drugs, Antidotal Effect of Chloroform on Strychnia, Description of a Compound Craniotomy Instrument, etc.

The list of permanent members had now reached some 500 names.

The *Twenty-second Annual Meeting* was held in Williamsport, June 14, 1871, in the Court House, at 11 A. M. There was registered 124 names. In spite of the expressions to the contrary, there were provided receptions, a banquet, and on Friday an excursion to Minnequa Springs. Action was taken in favor of lectures and clinical instruction in the colleges on the subject of mental disorders. A paper on fracture of the pelvic bones was read. A resolution was adopted that at the future meetings the first day should be devoted to miscellaneous business, the second to papers on medical, surgical, obstetrical and hygienic subjects, and members were requested to prepare such papers,

and all unfinished miscellaneous business to be transacted on the third day. A Committee on Opium and Alcoholic Intoxicants was appointed to report next year. A committee was appointed to prepare a law for the registration of vital statistics for the entire State. The Business Committee was directed to provide at the opening of each session a bulletin, on which those desiring to present communications on scientific subjects may record the titles and the time they will occupy, and such to be heard in the order of their entrance on the bulletin. The Committee on Publication now had reached the issue of 1125 copies of the Transactions. A prostatic catheter was exhibited, statistical details of ear diseases were read, a modified apparatus for angular curvature of the spine was shown.

In place of the annual address being delivered at the opening of the session, it is now made the business for a meeting in the evening, and visitors are invited. A resolution was adopted for the appointment by the President each year of a member to deliver addresses in medicine, in surgery and in obstetrics, reviewing the progress in these branches. Amendment was adopted for the Publication Committee to prepare a statistical State report from the county society reports, and with discretionary power to publish any or all papers referred to it. Again the matter of female physicians was brought up by Dr. Traill Green, and, after some discussion, the action against them was rescinded with a proviso that the passage of this resolution shall not be construed as to commit this Society to acknowledge the right of Women's Medical Colleges and Associations of Female Physicians to representation in this Society. Ayes, 55; nays, 45. The first appointments to prepare addresses were, in Medicine, Dr. W. M. Wallace, Erie County; Surgery, Dr. A. M. Pollock, Allegheny County; Obstetrics, Dr. Washington L. Atlee, Philadelphia County. Each County Society was requested to furnish one or more scientific papers to be read at the annual meetings. These were first to be presented to the county society and thus referred. The selling of diplomas having become a matter of common talk, it was resolved that the Legislature be asked to pass an act making it a penal offence to sell a diploma. Dr. D. Francis Condie having removed by reason of ill health from the county of Philadelphia, it was unanimously resolved that he be permitted to retain his permanent membership in this Society. Dr. Benjamin Lee read a paper, A History of a Case of Thyroid Dislocation of the Hip-Joint in the Earlier Stage of Coxalgia.

Dr. B. Lee offered the following: *Resolved,* That it is the unanimous conviction of this Society: 1st, That the comparative immunity which our country and the civilized world generally now enjoys from the once decimating scourge of small-pox, is due entirely to the protective and modifying influence of vaccination. 2d, That the danger of transmitting other constitutional diseases through the medium of vaccination is so infinitesimally small that it does not deserve to be placed in the scale as opposed to the immense benefit which the operation confers. 3d, That a subjection of the entire population to its protective agency would result in the complete stamping out of this dread disease

in its fatal and loathsome form. 4th, That the wide prevalence of the disease at the present time, in certain cities of Europe and America, traceable in considerable degree to a neglect of the above-mentioned preventive measure, conveys a warning which it would be most unwise to disregard; therefore, *Resolved,* That a committee be appointed to memorialize the State Legislature at its next session upon the importance of adopting and enforcing by legislative enactment a system of compulsory vaccination. This was referred to the Publication Committee and the Committee was appointed.

A memorial from the Philadelphia College of Physicians was presented relative to the need of legislative action to prevent unnecessary suits against the profession for malpractice. It was agreed that the President of the State Society should sign it, and the Presidents of the County Societies were asked to do so, and to use their influence with their members of the Legislature for the passage of a law in accordance with the request of the memorial..

Dr. Mayburry, owing to declining health, declined a re-election as Treasurer.

Officers for the ensuing year were, President, Dr. J. S. Crawford, Lycoming County; Vice-Presidents, Drs. Buckland Gillett, Venango County; Henry De La Cossett, Mercer County; J. F. Treichler, Schuylkill County, and W. L. Richardson, Susquehanna County; Corresponding Secretary, Dr. Turnbull; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. F. F. Davis, Venango County; Treasurer, Dr. A. H. Fish, Philadelphia County. Franklin was chosen for the next meeting. The volume contained 280 pages, consisting of the usual matter, Reports of County Societies, Report of 600 Cases of Ear Disease, by Dr. L. Turnbull; A Case of Thyroid Dislocation of the Hip-Joint in the Second Stage of Coxalgia, by Dr. Benjamin Lee; Remarks on a Modified Taylor's Splint for Posterior Curvature of the Spine, by Dr. Lee, and a New Prostatic Catheter by Dr. T. H. Squire, New York. Many of the county reports are of great value. The addition of the carefully prepared index at the close of about 500 pages is of great value to any one who may desire to learn what has been done by the members of the county societies.

The *Twenty-third Annual Meeting* was held at Franklin, June 12, 1872, at the Court House, at 11 A. M. In the address of welcome allusion was made to the fact that the meeting took place in the oil region of Pennsylvania. The program provided for excursions to the oil fields, and receptions by the oil princes. The register shows the presence of 94 members from 27 county societies. A committee was appointed to memorialize the Legislature to erect a hospital for the insane for certain western counties. It may be remarked here, that its mover, Dr. John Curwen, has by his untiring attention to the needs of the insane of the State, succeeded in providing the State with hospitals for the insane for nearly every section, and, up to the time of the preparation of this book, he nobly continues this important work. At this meeting a number of societies were declared dissolved for nonpayment of dues. The importance of a preliminary education for those

seeking to enter the medical colleges was very earnestly affirmed. The number of volumes of the Transactions now issued had reached 1100 copies, over 1000 of which were distributed to the county societies. It was agreed that, as the parts as formerly agreed upon now numbered eight volumes, that when the pages of the subsequent volumes should reach 500, it shall be entitled Volume IX, and that all subsequent volumes shall conform to this order. Of the addresses provided for, only one—that on Obstetrics—was presented; this was by Dr. W. L. Atlee.

Officers for the ensuing year: Dr. Alexander M. Pollock, Allegheny County;[8] Vice-Presidents, Drs. W. L. Atlee, Philadelphia County; Wm. W. Dale, Cumberland County; R. Crawford, Venango County, and J. T. Ray, Crawford County; Corresponding Secretary, Dr. Thomas M. Drysdale, Philadelphia County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. S. B. Kieffer, Cumberland County; Treasurer, Dr. Lucius S. Bolles, Philadelphia County. Carlisle was selected as the place of meeting.

The appointments for 1873 were, Address in Medicine, Dr. Daniel Leasure, Allegheny County; on Obstetrics, Dr. Wm. Goodell, Philadelphia County; on Surgery, Dr. John L. Atlee, Lancaster County. Dr. W. L. Atlee exhibited an ovarian tumor, and explained its peculiar features.

The volume comprised the Address in Obstetrics, being entitled "The Use of the Speculum in the Diagnosis and Treatment of Diseases of the Uterus;" an Act to provide for the Registration of Births, Marriages and Deaths; reports from 17 county societies, and the usual addenda. It amounted to 263 pages.

The *Twenty-fourth Annual Meeting* was held at Carlisle, June 11, 1873, at the Court House, at 11 A. M. There were registered 121 names from 28 counties, New York and New Jersey. Greetings were exchanged with the Ohio State Medical Society. Again a committee to prepare a bill for the regulation of medical practice to present to the Legislature. Local troubles in several counties produced at this meeting quite an amount of discussion and appeals, but, fortunately, the good sense of the majority of the members prevented it resulting in serious trouble, and these were settled in a manner which eventually proved satisfactory to all.

The subject of instruction of the deaf in articulation was introduced, and the members were requested to use their influence with the Legislature to pass such acts as would enable it to be tried in the State institutions. The committee on new asylums for the insane reported complete success, and that a new hospital was in progress of completion.

The Society was asked to adopt the following by the Association of Superintendents of Insane Asylums: *Resolved*, That neither the cells of penitentiaries and jails, nor the wards of ordinary hospitals for the insane, are proper places for the custody and treatment of insane con-

[8] NOTE.—This is a departure from the plan which had so long prevailed of selecting the President from the place where the meeting was held, and which had, in several instances, caused much local trouble.

victs. That when the number of this class in any state is sufficient, these cases should be placed in a hospital specially provided for the purpose, and, until this can be done, they should be treated in a hospital connected with the prison, and not in the wards or in separate buildings or any part of the ground of an ordinary hospital for the insane. This was unanimously adopted. A committee was appointed to memorialize the Legislature in reference to the care and treatment of insane criminals.

Officers for 1874: President, Dr. S. B. Kieffer, Cumberland County; Vice-Presidents, Drs. S. L. Blachley, Washington County; Jonathan E. Bulkeley, Lycoming County; T. H. Helsby, Luzerne County, and John Montgomery, Franklin County; Corresponding Secretary, Dr. Drysdale; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. Chas. McIntire, Northampton County; Treasurer, Dr. Benjamin Lee, Philadelphia County. Easton was chosen as the next place of meeting. By reason of the interference of the usual time with that of the American Medical Association, after some discussion, the By-Laws were amended to read: "The time of meeting shall be determined by the Nominating Committee each year."

Dr. J. L. Stewart read a paper on "Excision of the Median Nerve for relief of Traumatic Neuralgia." The addresses in Obstetrics and in Surgery were presented and referred for publication. The number of copies of the volume for this year was 1200. The Constitution was amended by striking out the rule requiring the payment of three dollars by the permanent members in attendance at the meetings. This had long been regarded as an invidious distinction against the permanent members. Several members read papers or made remarks upon interesting subjects, which were referred to the Publication Committee. The appointments for addresses were: on Medicine, Dr. T. H. Helsby; on Surgery, Dr. T. M. Drysdale; on Obstetrics, Dr. Wm. B. Atkinson. The volume contained the Report on Compulsory Vaccination, by Dr. Benjamin Lee; memorial for a new insane hospital; Nerve Excision, by Dr. J. L. Stewart; Address in Obstetrics, by Dr. Wm. Goodell; Whooping-Cough as a cause of Spinal Caries, by Dr. Benjamin Lee; Cases of Ear Diseases, by Dr. L. Turnbull; Cases of Double Uterus, by Drs. Atlee, Pancoast and Sibbet, and reports from 20 societies, with the index, making over 300 pages.

The *Twenty-fifth Annual Meeting* was held at Easton, May 13, 1874, in the chapel of the Reformed Church, at 3 P. M. The program provided for the sessions to be held in the church, in Pardee Hall, Lafayette College, and again in the chapel. The register shows the names of 131 members, etc., from 30 counties, the States of New York and New Jersey. An amendment was adopted rearranging the Censorial Districts and referring all questions of ethics in a county to the censors. Appeals to be referred to the censors of an adjoining district. The Standing Committee was omitted, and papers were, in future, to be referred to the Committee of Arrangements and Credentials. The Annual Address was delivered in the evening at Pardee Hall. The addresses in Surgery and Obstetrics were read. That by Dr. Atkinson, on Ob-

stetrics, elicited quite a discussion, especially on the subject of puerperal convulsions. The committee on instruction of deaf-mutes reported that they had succeeded in obtaining the needed legislation, and that progress was being made on a new building in Pittsburg. Papers were read on Education of Deaf-Mutes, by Dr. L. Turnbull; on Purity of Water and the Relation of Burying Grounds, by Dr. B. Lee; on the Diagnosis of Obscure Injuries at the Hip, by Dr. O. H. Allis; on a Case of Vaginal Ovariotomy, by Dr. R. Davis, of Luzerne County.

Officers for the ensuing year: President, Dr. Washington L. Atlee, Philadelphia County; Vice-Presidents, Drs. George D. Bruce, Allegheny County; Rowan Clark, Blair County; Peter B. Breinig, Northampton County; and Alexander Craig, Lancaster County; Corresponding Secretary, Dr. R. J. Dunglison, Philadelphia County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. R. S. Chrisman, Schuylkill County; Treasurer, Dr. Lee. Pottsville the next place of meeting, second Monday of June.

Dr. W. H. Pancoast read a paper on a New Operation for Ununited Fracture of the Tibia, etc. Dr. R. J. Levis was appointed to read the Address in Surgery, Dr. William Pepper in Medicine, Dr. Joseph Coblentz in Obstetrics. A paper on Tracheotomy and its Relation to Croup was presented by Dr. J. Solis-Cohen; On transfusion by Dr. J. M. Junkin; Mr. Seaman exhibited a wheeled crutch and splints, Mr. Molesworth, dilators, uterine syringe, etc.

The Society urged upon Congress the passage of the bill for increased rank to the medical corps of the Army. Several new Societies were reported as organized and some old ones revived. The volume was the largest of any yet, having 454 pages, including the Address in Surgery, by Dr. T. M. Drysdale, Address in Obstetrics, by Dr. William B. Atkinson, report of 132 cataract extractions by Dr. Peter D. Keyser, Deafmutism and Method of Educating the Deaf and Dumb, by Dr. L. Turnbull, Diagnosis of Obscure Diseases of the Hip, by. Dr. O. H. Allis, New Operation for Ununited Fracture of the Tibia, by Dr. W. H. Pancoast, New Method of Treating Intra-capsular Fracture, etc., by Dr. Pancoast, Croup in its Relation to Tracheotomy, by Dr. J. Solis-Cohen, Case of Transfusion, by Dr. J. M. Junkin, Ovarian Tumor removed per Vaginam, by Dr. R. Davis, and the reports of 20 County Societies. Sketches of Drs. H. L. Hodge, L. P. Gebhard, S. W. Butler, added to the value of this volume.

The *Twenty-Sixth Annual Meeting* was held at Pottsville, June 9, 1875, in Union Hall, at 3 P. M. In addition to the usual program, there was announced for Friday an excursion by rail, through the courtesy of the Philadelphia and Reading Railroad Company. The register showed the presence of 150 members from 33 counties and New Jersey. The county reports were now received and referred at once to the Publication Committee. Papers were read by Dr. O. H. Allis, A Few Suggestions on the Use of Ether, with an instrument he had devised. A number of members spoke of the value of it and others objected to it. Dr. J. T. Carpenter exhibited a case of Resection at the Elbow for Gunshot Wound; Dr. P. D. Keyser read a paper explana-

tory of the terms and signs used by oculists and the results of a number of cataract operations; Dr. A. P. Carr exhibited a case of fracture of the skull with excellent recovery, Dr. William Pepper delivered the Address in Medicine, Dr. R. J. Levis the Address in Surgery, Dr. Benjamin Lee, the Address in Hygiene, and it was agreed that in future copies of this Address should be distributed to State Boards of Health, etc., at home and abroad. In this connection it may be mentioned that a committee was appointed to memorialize the legislature for the appointment of a State Board of Health. Dr. John Curwen read the Address on Mental Disorders. The Committee on Legislation announced success in obtaining the passage of an act regulating the practice of medicine, which act is printed in this volume. Resolutions were adopted relative to the death of Dr. D. Francis Condie. The County Societies were earnestly urged to see that the law for regulation of practice was enforced in the respective counties.

Officers for the ensuing year: President, Dr Crawford Irwin, Blair County; Vice-Presidents, Drs. Andrew Nebinger, Philadelphia County; A. H. Halberstadt, Schuylkill County; R. Lowry Sibbet, Cumberland County; and J. F. Ross, Clarion County; Corresponding Secretary, Dr. T. M. Drysdale, Philadelphia County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. James Tyson, Philadelphia County; Treasurer, Dr. Leè. Place of meeting Philadelphia, last Wednesday in June, 1876, and delegates to the State Societies of New Jersey, New York, Ohio, Delaware, West Virginia, Maryland and Connecticut. Appointments to make the Addresses, Dr. D. H. Agnew, Surgery; Dr. R. Davis, Obstetrics; Dr. James Aitken Meigs, Medicine; Dr. B. Lee, Hygiene; Dr. J. Curwen, Mental Disorders. Dr. Curwen urged that the legislature be asked for another Insane Hospital for the eastern part of the State. A committee was appointed to attend to it. Typhoid fever and its causes, as milk, filth, etc., were discussed by several members. A committee on the best method of administration of anesthetics was appointed. The profession were urged to organize the County Societies so that the next year the Centennial of Independence be fittingly commemorated.

The volume contained the Address in Medicine by Dr. William Pepper, Suggestion upon the Use of Ether, by Dr. O. H. Allis, Report on Cataract Operations, by Dr. P. D. Keyser, Closure of the Eustachian Tube, etc., by Dr. L. Turnbull, Address on Hygiene, by Dr. B. Lee, On Mental Disorders, by Dr. J. Curwen, reports from 21 County Societies, the act to Regulate the Practice of Medicine and the usual addenda, making a volume of 376 pages. The very complete index shows a vast deal of valuable matter.

The *Twenty-seventh Annual Meeting* was held at Philadelphia, May 31, 1876, at the First Reformed Church, Broad above Pine Street, at 3 P. M. The program was issued as usual for the hours of meeting and adjourning and for receptions by Drs. W. L. Atlee and R. J. Levis on Wednesday evening, a reception at the Academy of Fine Arts, Broad above Arch Streets on Thursday evening, and an excursion to Sea Girt, New Jersey, on Friday. There were registered 235 delegates,

etc., from 44 County Societies, New Jersey and Maine. The appeals to the county organizations appear to have produced excellent results. Physicians were also present from Iowa, California and England. Undoubtedly the large attendance was partly due to the fact that this was Centennial year, and many were attracted by the great exhibition then being held in Philadelphia. It was agreed to memorialize Congress on behalf of the publication of the index catalogue of the National Medical Library. The resignation of the staff of the Harrisburg Hospital in consequence of an effort of the managers to introduce homeopaths into the staff was fully explained, and their action endorsed by the State Society.

Officers selected for the next year: President, Dr. Robert B. Mowry, Allegheny County; Vice-Presidents, Drs. George W. Riley, Dauphin County; Amos Seip, Northampton County; Thomas Lyon, Lycoming County; D. P. Miller, Huntingdon County; Corresponding Secretary, Dr. Drysdale; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. H. L. Orth, Dauphin County; Treasurer, Dr. Lee. Place of meeting Harrisburg, 2d Wednesday in June. Delegates were elected to the International Medical Congress which was to meet in Philadelphia in September. The number of copies of Transactions printed were for the past year 1300. The annual addresses were read. The volume amounted to 386 pages, containing the Address in Obstetrics, by Dr. R. Davis, Address in Surgery, by Dr. D. Hayes Agnew, the Address in Hygiene, by Dr. B. Lee, Criminal Abortion, by Dr. Andrew Nebinger and reports from 21 County Societies.

The *Twenty-eighth Annual Meeting* was held at Harrisburg, June 13, 1877, in the Capitol, at 3 P. M. There were registered 184 names from 32 counties and New Jersey. A committee was appointed to watch over the welfare of the insane and diffuse such information as may be needed to secure this object. The Committee on Legislation reported a record book for each county to promote uniformity in registration throughout the State.

It was resolved that the Society commends most highly the adoption of the three years graded course of medical instruction by the colleges and pledged its support to institutions adopting it. Several papers were read, as will be seen in the conclusion of this volume.

Officers for the ensuing year: Dr. D. H. Agnew, Philadelphia County; Vice-Presidents, Drs. A. Rothrock, Mifflin County; J. D. Strawbridge, Montour County; R. Hays, Centre County; and L. Turnbull, Philadelphia County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. Henry T. Coffey, Allegheny County; Corresponding Secretary, Dr. William Goodell, Philadelphia County; Treasurer, Dr. Lee. Pittsburg was chosen as the place of meeting, last Wednesday in May, 1878. The Committee on State Board of Health, Dr. William B. Atkinson Chairman, reported the memorial to the legislature urging it, and announced that the bill passed the Senate and failed in the House by a small minority. The committee was continued. The County Societies were urged to use their influence in every way to make the effort for a State Board successful. A committee was appointed to urge legislation

against criminal abortion. As the feeling in favor of discussing the papers, etc., before the Society was growing, Dr. William Pepper offered the following which was unanimously adopted:

Whereas, in view of the brief time at the disposal of the Society for the transaction of scientific business, it seems desirable that some regulation should be adopted in regard to this matter;

Resolved, that no annual address, save that of the President, shall in its delivery exceed 30 minutes; that no voluntary paper shall exceed 20 minutes. That opportunity for debate shall be furnished immediately after the reading of each address or paper; that the time for such debate shall be limited to 30 minutes unless extended by vote; that no speaker shall be allowed to speak a second time without consent and the time for each speaker shall not exceed 10 minutes.

This action marks an era which rapidly grew to such proportions that it necessitated an entire change in the manner of conducting the proceedings of the Society, and has made the annual volume a work of great value. For the first time the work of the Society demanded a session on the third day. This year Dr. Hiram Corson began the effort to have a female physician for the female portion of each Insane Hospital. A resolution to that effect being unanimously adopted. A memorial to Congress was adopted urging that no legislation should be adopted tending to lessen the manufacture of quinine in America or to make the country dependent on those abroad. The volume reached 430 pages, comprising an appeal for the Insane Poor, Address in Obstetrics, by Dr. S. B. Kieffer, (puerperal convulsions), in Surgery, by Dr. H. Lenox Hodge, in Mental Disorders, by Dr. J. Curwen, in Hygiene, by Dr. B. Lee, an act to create a State Board of Health, Some Forms of Inflammatory Diseases of the Eye, etc., by Dr. P. D. Keyser, Diagnosis of Psoas Abscess, by Dr. B. Lee, Fracture in the Upper Third of the Ulna, etc., by Dr. O. H. Allis, Urethral Fistula and the Elastic Ligature, by Dr. J. H. Packard, the Metric System, by Dr. Hugh Hamilton, A Modification of Symes Amputation at the Ankle Joint, by Dr. W. R. Hamilton, and reports from 18 County Societies.

The alphabetical indices which now close each second volume make them of more value, rendering the examination of the contents more easy and reflect great credit upon the member of the Publishing Committee who so willingly performed this work.

The *Twenty-ninth Annual Meeting* was held in Pittsburg, May 29, 1878, in Library Hall, at 3 P. M. There were recorded 183 members. The order of business included a large number of papers by the members, occupying the entire three days. As these were read discussions followed, tending to add much to the value of the proceedings. More Uniformity in Physic was the title of a paper read from Dr. E. Seguin, of New York, read by the Permanent Secretary and published with the Minutes. Dr. W. B. Atkinson exhibited the new Cephalotribe of Professor Ellerslie Wallace, of Philadelphia, and Dr. J. Solis-Cohen an improved tracheotomy tube. A resolution was adopted requiring the County Societies to elect three Medical Examiners to examine applicants who may desire to enter as students in the offices of the members.

Such applicant to be admitted must be of good moral character, possess a good English education and a sufficient knowledge of Latin and Greek to enable him to pursue his studies to advantage. No member of a Society shall receive any one as a student without a certificate from the examiners. 2d. Every one entering as a student shall be required to agree to pursue his studies for at least three years. 3d. All who hold allegiance to this Society shall recommend their students to attend only such colleges as rigidly enforce the full three years course of study in their curriculum, and otherwise conduce to elevate the standard of graduation. The Permanent Secretary was directed to send a copy of these resolutions to the Association of American Medical Colleges at Buffalo in June next. An amendment was adopted permitting any member to transfer his membership to any other Society.

Officers for the ensuing year: President, Dr. James L. Stewart, Erie County; Vice-Presidents, Drs. J. T. Carpenter, Schuylkill Connty; William Goodell, Philadelphia County; T. J. Gallaher, Allegheny County; and G. W. Bean, Lancaster County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. Isaac N. Kerlin, Delaware County; Corresponding Secretary, Dr. O. H. Allis, Philadelphia County; Treasurer, Dr. Lee. Place of meeting Chester, third Wednesday in May, 1879. The Society formally adopted the Metric System, and urged this action upon the American Medical Association. A committee was appointed to memorialize the legislature to enact laws to authorize the employment of women medical superintendents in hospitals under the control of the State and to erect hospitals for females.

The death of Dr. W. M. Wallace, late President, was mentioned and appropriate resolutions adopted. The edition of the volume had now reached 1400 copies. The County Societies were requested to report the proportional number of epileptics who have become insane. The subject of experts was referred to the Legislative Committee. The Committee on State Board of Health reported delay in the House committee and were continued. The volume reached 500 pages containing the Address in Obstetrics, by Dr. William Goodell, in Surgery, by Dr. Samuel W. Gross, Report on the Care of the Insane, by Dr. J. Curwen, Iritis, a Clinical Study, by Dr. S. D. Risley, Anesthesia in Parturition, by Dr. A. H. Halberstadt, Rosacea, by Dr. J. V. Shoemaker, Sympathetic Ophthalmia, by Dr. E. Dyer, Metric System in Medicine, by Dr. E. Dyer, Local Origin of Constitutional Diseases, by Dr. John T. Carpenter, Dislocation of the Hip with Fracture of the Femur, by Dr. J. B. Murdoch, Plaster Jacket in Spinal Fractures, by Dr. S. S. Koser, Preparatory Education, by Dr. C. Galen Treichler, Psoas Abscess Simulating Nervous Affections, by Dr. Charles K. Mills, Report on the Propriety of having an Assistant Female Superintendent for the Female Department of every Hospital for the Insane under the control of the State, Two Ovariotomies, by Dr. John S. Dickson, Contribution to the Clinical Study of Catarrhal Inflammation of the Bile Ducts, with Remarks on the Use of Nitrate of Silver in the Treatment, by Dr. William Pepper, Mastoid Disease, by Dr. L. Turnbull, Hydrobromic Ether, by Dr. L. Turnbull, Report of the Committee on the

Revision of the Pharmacopeia, from the Philadelphia County Society, Descent of the Testes, by Dr. O. H. Allis, Excision of the Elbow for Gunshot Wound, by Dr. W. J. Asdale, Puerperal Disease of the Shenango Valley, by Dr. E. Griswold, Address in Hygiene, by Dr. B. Lee, and reports of 18 County Societies.

The Thirtieth Annual Meeting was held at Chester, May 21, 1879, in Holly Tree Hall, at 3 P. M. There were registered 193 names from 35 counties, etc. The program for the session was filled with volunteer papers, etc. The session of Friday was held at the Institution for Feeble Minded at Media. The addresses and papers were read and will be found in the Transactions. Dr. C. S. Turnbull exhibited a case of living filaria in the eye of a horse. The report on Female Superintendents in Insane Hospitals was presented at great length with a minority report. It appeared that an effort had been privately made in opposition to the work of the committee just as the possibility of its success was manifest, and thus the matter was delayed to obtain further evidence. After some discussion the majority report was adopted as the sense of the Society.

Dr. Curwen reported on the subject of epilepsy and its tendency to produce mental disorders. The Society joined in urging by telegraph upon the Legislature the importance of a State Board of Health. It also urged the passage of the Act for the legal restraint of drunkards.

The volume now reached 1400 copies. Mutual Aid Associations for Physicians were urged by the presentation of the charter, etc., of the Society of Philadelphia. Officers for the ensuing year: President, Dr. Andrew Nebinger; Vice-Presidents, Drs. William B. Ulrich, Chester County; Jacob L. Zeigler, Lancaster County; George A. Linn, Washington County, and Joseph A. Murphy, Luzerne County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. C. H. Clossen, Blair County; Corresponding Secretary, Dr. Allis; Treasurer, Dr. Lee. Place of meeting Altoona. The death of Dr. Isaac Thomas was announced. The treasury had slowly crept up from a deficit till this year there was a surplus of $1000. It was announced that the American Medical Association had adopted the metric system, and every member of the society was urged to aid in giving unity and rapidity to the metric movement. Such progress in the work for a State Board of Health had been obtained that it was confidently expected that the Act would soon become a law. Dr. E. Seguin, of New York, by request gave some remarks on idiocy and its treatment.

The volume contained 480 pages, comprising the Address in Surgery, by Dr. Charles T. Hunter; in Medicine, by Dr. Andrew Fleming; in Hygiene, by Dr. R. A. Cleemann; papers on Extirpation of the Ovaries, by Dr. William Goodell; Fractures Near the Joints, by J. H. Packard; Fracture of the Lower End of the Radius, by Dr. R. J. Levis; Color Blindness, by Dr. P. D. Keyser; Clinical Study of Exopthalmic Goitre, by Dr. William Pepper; Cysticercus Cellulosa, by Dr. C. S. Turnbull; Examination of the Usual Signs of Dislocation of the Hip, etc, by Dr. O. H. Allis; Cholera Infantum, by Dr. E. Harvey; Topical Remedies in Skin Diseases, by Dr. J. V. Shoemaker; Hori-

zontal Extension for the Application of the Porous Felt Jacket for Curvatures of the Spine, by Dr. Benjamin Lee; and reports from nineteen counties. It will be observed that as the volunteer papers multiply the county reports decrease. Many of these papers would under the former plan have formed a part of the report of a society, and would have been to a certain extent buried, hence the value of the plan by which these are brought directly before the State Society.

The *Thirty-first Annual Meeting* was held at Altoona, May 19, 1880, in the Opera House, at 11 A. M. There were registered 198 delegates, etc., from 39 counties. A very full program was presented, with papers and addresses, etc. Also a banquet and reception, and an excursion to Bell's Gap with a ride on the Gravity Railroad. The Publication Committee was made the guardian of the books, etc., of the Society, the Philadelphia County Medical Society to furnish the room needed. The Constitution was amended to read: "It shall be the duty of the societies to discipline their members who violate the Code of Ethics, and if they fail to do this, said Society shall forfeit its membership in this Society." The Board of Health Committee reported no progress, owing to certain complications in the Legislature, and were continued. A resolution was adopted: "That the Committee on Medical Legislation be authorized to confer with any representative medical men in Philadelphia to secure efforts to stop the traffic in diplomas."

It was found that twenty county societies had appointed Examining Boards. It was resolved that no societies be admitted to future sessions till they bring evidence that they have complied with this law.

Officers for the ensuing year: President, Dr. John T. Carpenter, Schuylkill County; Vice-Presidents, Drs. William Varian, Crawford County; W. R. Cowden, Butler County; Thomas Lyon, Lycoming County, and C. A. Rahter, Dauphin County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. Alexander Craig, Lancaster County; Corresponding Secretary. Dr. Allis; Treasurer, Dr. Lee. Place of meeting Lancaster, second Wednesday in May, 1881.

The officers of the Society were instructed to append their signatures to the petition to the Legislature, relative to the secrecy of communications made by patients.

A committee was appointed to memorialize the legislature for a law providing for an Inspector of Drainage in all towns and cities, that have a system of sewerage.

The volume contained 494 pages, consisting of reports from twenty-two counties; report on Medical Legislation; the Address in Obstetrics (A History of Obstetrics in Pennsylvania), by Dr. John T. Carpenter; in Surgery, by Dr. J. H. Packard; in Hygiene, by Dr. B. Lee; papers on Clinical Observations on the Radical Treatment of Fibroid Tumors of the Womb, by Dr. William Goodell; Some New Remedies in the Local Treatment of Skin Diseases, by Dr. J. V. Shoemaker; Hyperdistension of the Air Cells as a Therapeutic Measure, by Dr. J. Solis-Cohen; Some Practical Remarks on the Treatment of Asthma, by Dr. William Pepper; An Open Adjustable Appliance for the Treatment of Spinal Curvature, by Dr. E. H. Coover; Bromide of Ethyl as an

Anesthetic in Surgery, by Dr. John B. Roberts; Alkaloids of Cinchona, by Dr. B. Lee; Enumeration, Classification and Causation of Idiocy, by Dr. Isaac N. Kerlin; Removal of an Unusually Large Fibroid of the Uterus, by Dr. S. T. Davis; Normal Axis of the Sole of the Human Foot, by Dr. B. Lee; Some Points in the Consideration of Puerperal Septicemia, by Dr. W. H. Parish; Abuse of Medical Charities, by a Committee.

The *Thirty second Annual Meeting* was held in Lancaster, May 11, 1881, in Fulton Hall, at 11 A. M. There were registered 263 names from thirty-seven counties, Maryland and New Jersey. This year the names of permanent members were placed after the delegates from each county, thus showing how many were present from each county. Rules for the Library were adopted. An amendment was adopted providing for a Judicial Council of nine members to act upon all questions of ethics, etc. Rules of Order for the annual meetings were adopted, and ordered to be published as part of the program in future.

Officers for the ensuing year: President, Dr. Jacob L. Zeigler, Lancaster County; Vice-Presidents, Drs. Joseph A. Reed, Allegheny County; W. S. Roland, York County; J. W. Houston, Chester County, and W. Murray Weidman, Berks County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. G. Thickstun, Erie County; Corresponding Secretary, Dr. Allis; Treasurer, Dr. B. Lee. Place of meeting, Titusville, second Wednesday in May. The first Judicial Counsel consisted of Drs. J. L. Stewart, Erie County; J. H. Packard, Philadelphia County, and W. Anderson, Indiana County, for one year; W. Varian, Crawford County; Thomas Lyon, Lycoming County, and R. B. Mowry, Allegheny County, for two years; Traill Green, Northampton County; H. L. Orth, Dauphin County, and J. T. Carpenter, Schuylkill County, for three years. Thanks were given the Editor of the Public Record for his successful efforts against the manufacture and sale of bogus medical diplomas. Resolutions were passed urging the Legislature to pass the bill for the erection of an additional building for the Feeble-Minded at Media. The Standing Committee was abolished as no longer needed.

The volume had 394 pages, containing the addresses in Surgery, by Dr. S. M. Ross; in Mental Disorders, by Dr. S. S. Schultz; in Hygiene, by Dr. B. Lee; in Medicine, by Dr. J. Solis-Cohen; in Obstetrics, by Dr. S. T. Davis; Report on Medical Legislation, by Dr. R. Lowry Sibbet; papers on Importance of Local Treatment of the Cervix Uteri in Pregnancy, by Dr. Jacob Price; Affections of the Lachrymal Passages, by Dr. S. D. Risley; Rest in Nervous Diseases, by Dr. J. Curwen; Preparatory Education of Medical Students, by Dr. Traill Green; Preliminary Examinations, by Dr. O. H. Allis; Extirpation of the Ovaries for Insanity, by Dr. W. Goodell; Albuminuria, by Dr. James Tyson; Ear Disease in Locomotive Engineers and the Danger to the Public, by Dr. L. Turnbull; Pathology of Shock, by Dr. C. C. Seabrook; Hygiene and Its Relation to the Medical Profession, by Dr. Isaac N. Snively; Epidemic of Scarlet Fever at Hollidaysburg, by Dr. Crawford Irwin; Parasites of the Human Body, by Dr. R. H. Milner;

Indications in Typhoid Fever, by Dr. J. L. Crawford; Chronic Laryngitis, by Dr. Carl Seiler; Treatment of Hydrocele and Serous Cysts by the Injection of Carbolic Acid, by Dr. R. J. Levis; Danger from Fractures Close to the Knee-joint, by Dr. O. H. Allis; Deformities from Fracture at the Elbow-joint, by Dr. Allis—many of these papers were well discussed by the members after reading; Weak Eyes in the Public Schools of Philadelphia, a report by a committee to examine the eyes of the pupils in the schools of Philadelphia, by Dr. S. D. Risley; and reports from fifteen counties.

The *Thirty-third Annual Meeting* was held at Titusville, May 10, 1882, in the Armory, at 10 A. M. There were registered 149 members from thirty-four counties. Owing to the action of a State Society in formally abrogating the Code of Ethics, the Society formally re-affirmed its adherence to the Code by a unanimous vote. Officers for 1883: President, Dr. William Varian, Crawford County; Vice-Presidents, Drs. Addinell Hewson, Philadelphia County; E. P. Allen, Bradford County; A. Thayer, Erie County, and A. M. Miller, Lancaster County; Permanent Secretary, Dr. Atkinson; Assistant Secretary, Dr. Edward Jackson, Chester County; Corresponding Secretary, Dr. John G. Lee, Philadelphia County; Treasurer, Dr. Benjamin Lee. Place of meeting, Norristown, second Wednesday in May, 1883. It was agreed that the time and place of graduation should be printed with the names of the members in the County lists. A committee to amend and codify the lunacy laws was appointed. A memorial to Congress for information "whether any portion of the United States is adapted to the growth of the cinchona tree" was adopted, and the aid of the American Medical Association was asked to effect this object. The Committee on Publication now printed 1600 copies of the Transactions. Michigan State Medical Society exchanged greetings from Ypsilanti. Owing to a great fire which had destroyed the best hotels in the city, the members were compelled to accept the accommodations of private houses, and the citizens were most earnest in their attention and efforts to provide for the comfort of the delegates in every way. In spite of the adverse circumstances under which the Society met, the session was a full and profitable one. The number of papers read was up to the average in number and excellence. The volume amounted to 467 pages, and it was deemed best to conclude with an index, without combining, as formerly, two years' transactions in one. From this time each year's transactions are issued as a volume. This contained the addresses in Obstetrics, by Dr. R. S. Sutton; in Mental Disorders, by Dr. Charles K. Mills; in Hygiene, by Dr. W. F. Muhlenberg (entitled "Germs"); papers on Gheel, by Dr. S. S. Shultz; Oleates and the Oleo-Palmitates in Skin Diseases, by Dr. J. V. Shoemaker; Procidentia and Its Relief, by Dr. E. E. Montgomery; Suggestions Regarding Legislation for the Benefit and Protection of the Insane, by Dr. A. T. Livingston; Abscess of the Orbit, by Dr. J. A. Lippincott; Comparative Study of the Action of Certain Mydriatic Alkaloids, by Dr. Edward Jackson; Subjective Traumatism of the Eye, by Dr. W. S. Little; Medical Relations of the Prevailing Forms

of Food Adulteration, by Dr. Henry Leffmann; Puerperal Malarial Fever, by Dr. B. E. Mossman; Boracic Acid in Otorrhœa, by Dr. C. S. Turnbull; Remarks on Intra-Nasal Surgery, by Carl Seiler; Paper as a Vehicle for Preserving Soaps to be Used in Surgical and Medical Practice, by Dr. A. Hewson; Remarks Upon Hernia, with Cases of Herniotomy, by Dr. E. Griswold; A Case of Ovariotomy, by Dr. William Varian; Excision of Cartilage in Nasal Obstruction, etc., by Dr. John B. Roberts; Management of the Perineum During Labor, by Dr. Frances N. Baker; Hydronephrosis, by Dr. James W. Kerr; Hematuria, by Dr. William S. Roland; Lacerated Perineum, by William M. Findley; Use of Atropia in Diseases of the Eye, by Dr. Ezra Dyer; The Registration Act, by Dr. R. Lowry Sibbet, Chairman, Names of Pennsylvania Schools, Medical Schools of Other States, Foreign Schools,—a most important beginning of the report to promote the registration of the profession and prevent the sale of diplomas; Report on Defective Hearing of Locomotive Engineers, Firemen and Conductors, by Dr. L. Turnbull; and reports from sixteen counties.

The *Thirty-fourth Annual Meeting* was held in Norristown, May 9, 1883, at Music Hall, at 9.30 A. M. The registration shows 305 names from forty-three counties, Delaware and New Jersey. For the first time a printed program was presented to the delegates. This gave the Rules of Order, the hour for each item of business, reading of papers, etc., and the list of officers for the year. It gave great satisfaction to all, and has been continued to the present time. A very full report from the Committee on State Board of Health was presented, with the belief that the success of the movement was near at hand. The bill here printed is substantially that which was finally adopted. The number of copies of the Transactions had now reached 1700. The Committee on Schedule of Subjects for Preliminary Examination presented a very full report. In consequence of the action of a State Society in abrogating the Code,[9] it was resolved that such action is rebellion against the constituted authorites, and should be so treated. The American Anti-Vivisection Society appealed to the Society to aid in the enactment of laws to effectually abolish useless physiological experimentation, and all needless repetition of vivisection. It was referred to a committee to report next year. The Legislature was asked to pass the Pending Anatomy Act. It was resolved that in the opinion of this Society it is the urgent duty of the incoming Congress to provide for the erection of a suitable fire-proof building to receive the Library and Museum of the Medical Department of the Army, so that the books and specimens may be safely kept and made easy of access, deprecating the severing of these collections by merging into the National Library as destructive of its utility; asking an appropriation to purchase all new medical books and journals, and that authority be given for the completion of the index-catalogue.

It was resolved to appoint a committee of three members on each of the following subjects: Medicine, Surgery, Diseases of Women and Children, Ophthalmology and Otology, Nervous Diseases, Insanity and

[9] See previous year.

Idiocy, to prepare a series of questions calculated to obtain the history, symptoms and treatment of the different diseases. These to be sent to the members throughout the State with the request to fill out one case of the disease specified in the list, and return to the Chairman of that branch, so that a collective investigation of the different forms of disease may be made, and thus a more thorough account may be obtained of all the facts bearing on disease in its different stages, and when these answers have been received the different committees shall arrange the facts thus procured for presentation to this Society. It was made the duty of the Committee on Publication to publish annually the program, and such amendments, etc., as should appear upon the next annual program. The Committee on State Board of Health was reappointed, and requested to continue their efforts to obtain the passage of the Act for a State Board of Health.

Officers for the ensuing year: President, Dr. Henry H. Smith, Philadelphia County; Vice-Presidents, Drs. Ellis Phillips, Schuylkill County; H. B. Van Valzah, Clearfield County; J. W. Kerr, York County, and S. S. Shultz, Montour County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. M. S. French, Philadelphia County; Corresponding Secretary, Dr. John G. Lee, Philadelphia County; Treasurer, Dr. B. Lee. Philadelphia as next place of meeting. The report of schedule of subjects for examination of medical students was adopted after a very full debate on the matter, and the Permanent Secretary was directed to print it and distribute to the members of the societies. Physicians of every county were requested to institute at suitable points courses of instruction on the art of nursing, for such persons as may be desirous of availing themselves of its benefits. The Committee on Legislation reported their efforts for the past ten years to obtain a proper Act for the registration of the practitioners of medicine, and after giving in detail the opposition met with, etc., suggested the discharge of the committee. This was accepted, and the committee discharged. To the annual addresses was added one on Ophthalmology, Otology, or Laryngology, these to be considered in regular alternation. In accordance with the resolution adopted, the following were appointed for collecting statistics on Insanity and Lunacy—Drs. J. Curwen, I. N. Kerlin, S. S. Schultz.

Medicine—Drs. James Tyson, C. K. Mills, R. H. Chase.

Surgery—Drs. R. J. Levis, S. M. Ross, James McCann.

Diseases of Women and Children—Drs. Albert H. Smith, William Goodell, C. A. Rahter.

Ophthalmology, Otology and Laryngology—Drs. C. S. Turnbull, P. D. Keyser, J. A. Lippincott.

Nervous Diseases—Drs. S. Weir Mitchell, J. L. Stewart, James L. Zeigler.

The Committee on Codifying the Lunacy Laws reported that the Governor had anticipated their action by establishing a commission for the purpose. It was resolved that the problems connected with insanity are so intricate, etc., that only those who have made a study of the subject are competent to attempt their solution, etc. That the attempt

to create the imputation of the incarceration of persons in institutions for unworthy purposes is an unworthy aspersion upon the profession, and is refuted by evidence, etc. Many of the papers were fully discussed during the session. The volume had 516 pages, containing the Address in Medicine (Malarial Hematuria and Hemoglobinuria), by Dr. James Tyson; in Surgery, by Dr. Alexander Craig; in Obstetrics, by Dr. G. O. Moody; in Hygiene, by Dr. Henry Leffmann; in Mental Disorders, by Dr. John Curwen (Some hints towards the prevention of mental and nervous disorders); papers on Instruction in First Aid to the Injured; Ophthalmological Observations for Ten Years in Wills Eye Hospital, by Dr. P. D. Keyser; The Wearing Out of Vaccine Protection, and the Efficacy of Re-vacination, by Dr. W. M. Welch; Obstetric Notes, by Dr. R. Lowry Sibbet; Artificial Infant Alimentation, by Dr. H. Hamilton; Insane Asylums in Relation to the Community, by Dr. R. H. Chase; A Deformity Which Often Follows Dislocation of the Foot Outward at the Ankle-joint, by Dr. E. A. Wood; A Plea for the Thorough Removal of Carcinoma of the Breast, by Dr. Samuel W. Gross; Treatment of Pleural Effusions, by Dr. J. C. Wilson; Clinical Study of Typhilitis and Perityphilitis, by Dr. William Pepper; Club-foot, Simple Measures for its Early Relief, by Dr. DeForest Willard; Remarks on Scarlet Fever, by Dr. E. O. Bardwell; Our Asylums and Our Insane, by Dr. Samuel Ayers; The Hair, Its Use and Its Care, by Dr. J. V. Shoemaker; Medical Service of Insane Hospitals, by Dr. Charles K. Mills; Surgical Expedients in Emergencies, by Dr. R. J. Levis; Mitral Stenosis, by Dr. J.T. Eskridge; Lithemia, by Dr. James B. Walker; Clinical Notes on the Use of Convallaria Majalis, by Dr. E. T. Bruen; The Possibility of Abnormal Ocular Conditions Through the Sympathetic System Impairing the Functions of the Uterus, by Dr. William S. Little; House Plants and Lung Disease, by Dr. James M. Anders; and reports from seventeen counties.

The *Thirty-fifth Annual Meeting* was held at Philadelphia, May 14, 1884, at the annex of the Union League, at 10 A. M. There were registered 490 persons from forty-nine counties, Delaware, New Jersey, Ohio and Texas. The program gave in addition to the papers, etc., the names and locations of hotels in Philadelphia. The Committee on Publication reported the publication of 1800 copies of the Transactions. Reports from the Medical Examiners of seventeen counties were received. The Committee on Vivisection reported the following resolution: That in view of the attempts which have been made to obstruct by restrictive legislation the progress of experimental medicine, this Society desires to express its earnest conviction that experimentation on animals is a most useful source of knowledge in medical sciences, that it is the means by which many important discoveries, both practical and scientific, have been made; that its direction and supervision can be properly intrusted only to members of the profession; and that its restriction or prohibition by law would inevitably retard the aquisition of knowledge in respect to healthy and morbid actions, the cause and prevention of disease, and the improvement of the medical art.

The Society endorsed the passage of an Act by the Legislature to regulate the practice of pharmacy and sale of poisons, and to prevent the adulteration of drugs and medical preparations, as proposed by the Pennsylvania Pharmaceutical Association. An effort to have a committee appointed to obtain a charter for a Medical College of the State of Pennsylvania was defeated.

Officers for the ensuing year: President, Dr. Ezra P. Allen, Bradford County; Vice-Presidents, Drs. Jacob Price, Chester County; D. W. Bland, Schuylkill County; Chas. Brandes, Erie County, and S. R. Rutledge, Indiana County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. A. J. Connell, Lackawanna County; Corresponding Secretary, Dr. J. G. Lee; Treasurer, Dr. B. Lee. Place of meeting, Scranton, last Wednesday in May, 1885.

A committee of seven was appointed to inquire as to the best method of making the diploma which permits a man to enter upon the practice of medicine in the State—a real guarantee of his proper qualification for the work. The members of the Society were urged to encourage the Anatomical Board and facilitate its duties in carrying out the provisions of the act. It was agreed that authors have no right to publish their papers read before this Society without the permission of the Society. It was agreed that an abstract of the papers be published, the same not to interfere with the annual volume. It was agreed to authorize the formation of a Society in the State to aid in obtaining a State Board of Health. The death of Professor Samuel D. Gross was announced, and appropriate resolutions were adopted. A "Gross Memorial Page" was directed to be placed in the volume of Transactions. The volume contains 622 pages, consisting of the usual matter and the Address in Hygiene by Dr. Benj. Lee (the present outcome of sanitary agitation in large cities of the United States); in Mental Disorders, by Dr. Alice Bennett (Relation of Heart Disease to Insanity); in Medicine, by Dr. W. H. Daly; in Obstetrics, by Dr. Jacob Price; in Ophthalmology, by Dr. W. S. Little (The Value of Pupillary Symptoms in General Disease); in Surgery, by Dr. J. B. Roberts (Surgical Delusions); An Appeal for a Board of Health for Pennsylvania, by Dr. E. A. Wood; Proper Medical Education, by Dr. Henry Leffman; Hygiene in the Public Schools in Pennsylvania, by Dr. Thos. H. Fenton; The Protective Rights of the Insane in Pennsylvania, by Dr. R. H. Chase; Disorders Mistaken for Hydrophobia, by Dr. Chas. W. Dulles; The Principles of External Treatment in Skin Diseases, by Dr. A. Van Harlingen; Jequirity, Its Uses in Skin Diseases, by Dr. J. V. Shoemaker; A Modification of the Sphygmograph, by Dr. J. H. Musser; Bronchitis and Pneumonia of Rheumatic Origin, by Dr. Jos. B. Potsdamer; A Plea for Chemistry, by Dr. Traill Green; Massage—the Latest Handmaid of Medicine, by Dr. Benj. Lee; Diphtheria, by Dr. L. B. Kline; Work of Women Physicians in Asia, by Dr. Mary H. Stinson; Obstetrical Forceps Jointed at the Junction of the Blades and Shanks, by Dr. J. A. McFerran; Alarming and Dangerous Doses of the Mydriatics, by Dr. Edward Jackson; Epithelial Mycosis, by Dr. Albert G. Heyl; Electric Laryngoscope, by Dr. Carl Seiler; Does

a Chronic Discharge from the Ear make Life Insurance Hazardous? by Dr. C. S. Turnbull; Ophthalmological Observations in Wills Hospital, by Dr. P. D. Keyser; Operative Treatment of Purulent Pleural Effusions, by Drs. E. T. Bruen and J. W. White; Bichlorate of Mercury as a Surgical Dressing, by Dr. C. B. Nancrede; Club Foot—is Excision of the Tarsus Necessary in Children, by Dr. DeF. Willard; Chronic Articular Osteitis of the Knee-Joint, with a New Mechanical Splint, by Dr. A. Sidney Roberts; Case of Excision of the Trachea, by Dr. W. S. Janney; Clinical Illustration of the Value of Combining Motion with Extension in the Treatment of Disease of the Hip-Joint, by Dr. Benj. Lee, with reports from 21 counties and report of the Medical Examiners.

The *Thirty-Sixth Annual Meeting* was held at Scranton, May 27, 1885, in the Court House at 9 A. M. There were registered 192 names from 34 counties, New Jersey and New York State Association. A telegram was received announcing that the State Board of Health Bill had passed the Legislature without a dissenting vote. Resolutions of thanks were adopted to the Legislature, and especially to those members who had worked so earnestly in behalf of the act. The volume now reached 1900 copies; the number needed for the county societies was yearly increasing, showing a steady growth in the general membership. The Committee on State Board of Health reported the successful accomplishing of their work, and it was discharged with thanks for the many years of earnest labor. The committee consisted of Drs. W. B. Atkinson and Benjamin Lee.

It was resolved that any county society that shall seek general medical legislation at Harrisburg without the consent of this body, shall forfeit all rights in this Society till relieved by the action of the Judicial Council. The members of the medical profession in the House of Representatives sent their congratulations upon the passage of the act for a State Board of Health. The Committee on Medical Education presented certain propositions which were adopted after a careful discussion by the State Society: 1, The sole power of granting license to practice medicine in Pennsylvania should be vested in a single Board. 2, The Board should have no connection with any corporation engaged in teaching. 3, The doings of the Board should be public, and the records open to inspection. 4, To secure the efficiency of the Board against incompetent membership and the undue pressure of partisan politics, the medical profession or its representatives should nominate to the Governor a list of persons qualified to perform its duties, from which list the Board should be appointed. It was recommended that a committee be appointed to prepare a form of bill for presentation to the Legislature in accordance with the views of the Society

Officers for the ensuing year: President; Dr. E. A. Wood, Allegheny County; Vice-Presidents, Drs. E. J. Russ, Elk County; Hiram McGowan, Dauphin County; A. H. Shaeffer, Juniata County, and C. C. Halsey, Susquehanna County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. George D. Nutt, Lycoming County; Corresponding Secretary, Dr. J. H. Musser, Philadelphia County; Treasurer,

Dr. B. Lee. Place of meeting, Williamsport, first Wednesday in June, 1886. The action requiring abstracts only to be printed outside of the annual volume was rescinded. It was resolved that it is the sense of this Society that all diplomas from medical schools in any other State or country than this, on being registered in this State, should be endorsed only by a school of the same system of study and practice as that granting the diploma.

The volume numbers 514 pages, containing Report on the best Method of Granting the License to Practice Medicine, Report on the Collective Investigation of Disease, Report on Insanity and Idiocy, Address in Hygiene, by Dr. Jos. G. Richardson; in Otology, by Dr. C. S. Turnbull; in Medicine, by Dr. E. T. Bruen; in Mental Disorders (Analogies between Insanity and Other Diseases), by Dr. S. S. Schultz; in Surgery, by Dr. E. A. Wood; Diagnosis of Incipient Cataract, by Dr. Edward Jackson; Points in Ophthalmology, by Dr. F. D. Castle; Epidemic of Typhoid Fever in Plymouth, by Dr. Lewis H. Taylor; Non-Contagiousness of Cholera, by Dr. Henry H. Smith; New Method in the Treatment of Alcohol Habit, by Dr. W. F. Waugh; Morphia in Cholera Infantum, by Dr. Spencer M. Free; Dermatitis Medicamentosa, by Dr. A. Van Harlingen; Soaps in Skin Diseases, by Dr. J. V. Shoemaker; Suggestions as to Substitutes for the Tracheotomy Tube, by Dr. J. H. Packard; Retroflexed Splints, by Dr. W. D. Kearns; Mechanical Dilatation of the Uterus, by Dr. C. M. Wilson; Recent Experiences with the Topical Uses of Earth, by Dr. A. Hewson; Electric Light as an Aid to Diagnosis in Surgery, by Dr. A. Hewson; Osteotomy for Correction of Deformities of the Lower Extremities, by Dr. H. R. Wharton; Study of the Eyes of Medical Students, by Dr. B. A. Randall; "Nil Desperandum" in Spinal Caries, by Dr. Benjamin Lee; Dislocation of the Shoulder, by Dr. O. H. Allis. and reports from 17 counties.

The *Thirty-Seventh Annual Meeting* was held at Williamsport, June 2d, in the Academy of Music, at 9 A. M. There were registered 229 members from 40 counties and New York. A committee was appointed to consider and report upon the best means calculated to obviate the bad physical results liable to follow injudicious systems of education. It was resolved that the societies be urged to appoint a Committee of Insanity whose duty it shall be to visit, at least annually, the insane asylums, county poor houses, and other places where the insane are treated, and observe whether the hygienic conditions and modes of treatment therein existing and pursued are in accord with the requirements of modern medical science. There were 1900 copies of the Transactions printed.

Officers for the ensuing year: President, Dr. R. Davis, Luzerne County; Vice-Presidents, Drs. Isaac N. Kerlin, Delaware County; Hobart Allport, Clearfield County; D. J. McKinnon, Schuylkill County, and W. B. Lowman, Cambria County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. H. H. Hill, Bedford County; Corresponding Secretary, Dr. Musser; Treasurer, Dr. Lee. Place of meeting, Bedford, last Wednesday in June, 1887. Resolutions were adopted upon the death of Dr. John L. Atlee.

The volume amounted to 400 pages containing the Address in Hygiene, by Dr. J. M. Anders (the Prevention of Communicable Diseases); on Laryngology, by Dr. C. E. Sajous; in Mental Disorders, by Dr. J. T. Carpenter; in Medicine, by Dr. J. V. Shoemaker; in Obstetrics, by Dr. R. Leonard; Papers on Collective Investigation of Disease, Dr. W. A. Edwards (report on Acute Rheumatism); on Medical Legislation, with the Act for a State Board of Medical Examiners; Announcements of Pasteur Concerning Hydrophobia, by Dr. C. W. Dulles; Inhalation of Compressed Air in Pulmonary Consumption, by Dr. S. Solis-Cohen; Relation of Eye Strain to Headache, by Dr. Edward Jackson; Tracheotomy for Croup and Diphtheria, by Dr. J. H. Packard; Purpura Hemorrhagica, by Dr. F. Woodbury; Some Rare Psychic Sequela of Typhoid Fever, by Dr. W. F. Waugh; Relative Value of Manipulation and Extension in Dislocations of the Hip, by Dr. J. B. Murdoch; Additional Cases of Subinvolution, by T. V. Crandall; Puerperal Convulsions, by Dr. W. H. Parcels; Treatment of Deaf Children, by Dr. Mary S. Garrett, and reports from 14 counties.

The *Thirty-eighth Annual Meeting* was held at Bedford Springs, June 29, 1887, in the ball-room of the hotel at 9 A. M. There were registered 177 names from 37 counties. The Committee on Legislation for Medical Education reported and urged each county to appoint a committee to aid in this work. It was agreed that in future relations with the Pennsylvania Pharmaceutical Association be maintained by the interchange of delegates. The Transactions were ordered in future to be bound in cloth, the alphabetical list of permanent members omitted, as well as the list of members of county societies, because of the former plan duplicating the names. This reduced the size of the volume, but materially reduced the value of the list, as it necessitated the examination of each list of members of county societies in order to find the name or residence of any one desired. The permanent members were marked in the county lists by the date of their membership in the State body. The treasury slowly increased the surplus, which this year was over $2,000. The following was adopted after conferring with the Pharmaceutical delegates:

Whereas, The prescribing of proprietary and copyrighted medicines has become an evil whose tendency is to create a spirit of indifference among practitioners to the claims of true and legitimate therapeutics, and

Whereas, The practice of prescribing such medicines is an unmitigated evil and an injury to the profession and opposed to the Ethics,

Resolved, That this Society expresses its hearty approval of the resolutions presented by the Pennsylvania Pharmaceutical Association, recommending that physicians prescribe officinal medicines in preference to all others, and that in no event should physicians prescribe preparations the practical working formulæ of which are not clearly published or made known.

Officers for the ensuing year: President, Dr. R. J. Levis, Philadelphia County; Vice-Presidents, Drs. J. T. Ullom, Greene County; J. L. Seibert, Centre County; W. T. Hughes, Bedford County, and A. M.

Cooper, Bucks County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. C. W. Dulles, Philadelphia County; Corresponding Secretary, Dr. Musser; Treasurer, O. H. Allis, Philadelphia County (Dr. B. Lee, so long the Treasurer, not having arrived when the Committee on Nominations were ready to report, he was unavoidably replaced by Dr. Allis). Two thousand copies were issued of the Transactions. The sum of $1,000 was appropriated for the expenses of the International Medical Congress, to be held in Washington, in September, 1887. The sum of $100 was appropriated yearly for five years to the Rush Monument Fund. Several efforts to amend the Constitution so as to give each member of the Nominating Committee a vote equal to the number of members of his Society or of those present from said body, were defeated by a large majority. It was agreed that each Society should appoint a committee of three on meteorology and epidemics, to investigate all epidemics and endemics in their districts, and report to this Society. The volume numbered 283 pages, it was on much inferior paper, and altogether did not present the neat appearance of the former volumes. It contained the Address on Surgery, by Dr. J. B. Murdoch; on Obstetrics, by Dr. Samuel Wolfe; on Medicine, by Dr. F. Woodbury; on Ophthalmology, by Dr. C. S. Turnbull; on Hygiene, by Dr. J. D. Thomas, and papers on A Case of Right Inguinal Colotomy, by Dr. J. H. Packard; Supra-Pubic Lithotomy, by Dr. C. W. Dulles: Iodoform in Surgery, by Dr. G. E. Stubbs; Ovariotomy Followed by Herniotomy in Four Days, by Dr. John C. DaCosta; Ovarian Tumors Complicating Pregnancy, by Dr. E. E. Montgomery; Plastic Surgery of the Vagina, by Dr. C. M. Wilson; Pulmonary Consumption, Report of 40 Cases, by Dr. T. J. Mays; Recent Advances in Treatment of Pulmonary Consumption, by Dr. S. Solis-Cohen; New Methods in the Treatment of Phthisis, by Dr, W. F. Waugh; Expectorants in Pulmonary Diseases, by Dr. J. C. Lange; Report on Hydrophobia, Pasteur's Method, by Dr. C. W. Dulles; When and How to Use Mydriatics in the Eye, by Dr. Edward Jackson; Two Cases of Nystagmus, by Dr. W. C. Bane.

The *Thirty-ninth Annual Meeting* was held at Philadelphia, June 5, 1888, in the Young Men's Christian Association Hall, at 9.30 A. M. The Society for the first time convened on Tuesday in place of Wednesday, to hold the sessions four days. There were registered 497 names from 48 counties, Delaware, Maryland, New Jersey and District of Columbia. The opening address, by Dr. J. H. Packard, gave some account of the history of the Society to that time. Twenty-two hundred and fifty copies of the Transactions were issued. A Committee on Clinical Research was appointed to record observations and act as a medium between members for collection of notes and specimens, and thus increase the value of material obtained. It was agreed that in future the program should be prepared and issued to all medical journals in the State one month prior to the meeting.

Officers for the ensuing year: President, Dr. J. B. Murdoch, Allegheny County; Vice-Presidents, Drs. Lewis H. Taylor, Luzerne County; Benjamin Lee, Philadelphia County; Wm. W. Dale, Cum-

berland County, and W. S. Roland, York County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. C. W. Dulles, Philadelphia County (contrary to the usual rule to select this officer from the place where the next meeting was to be held); Corresponding Secretary, Dr. Musser; Treasurer, Dr. Allis. Place of meeting, Pittsburg, third Tuesday in May. A committee was appointed to report on the relative value of the two different plans of operating the insane hospitals of the State. It was agreed that in future the salary of the Chairman of the Publication Committee be $150. The Secretary was directed to send a copy of the program as soon as published to each member of the State Society. A committee was appointed to revise the Constitution of the Society and report next year. A committee to confer with the State Committee on Lunacy was appointed. The action forbidding the publication of the county reports was rescinded.

The volume contained 355 pages, made up of Address of the President (Traditional Errors in Surgery), by Dr. R. J. Levis; in Medicine, by Dr. Edward R. Mayer; in Hygiene, by Dr. Traill Green; in Obstetrics, by Dr. Theophilus Parvin; in Mental Disorders, by Dr. H. C. Wood; in Otology, by Dr. B. Alexander Randall; The Effervescent Form for Administration of Medicines, by Dr. F. Woodbury; Decisions of the Courts Relating to the Registration Act, by Dr. R. Lowry Sibbet; The Proposed State Board of Medical Examiners, by Dr. J. H. Packard; The Contagiousness of Phthisis, by Dr. L. F. Flick; The Chemical Factor in Disease, by Dr. H. Hamilton; Rectal Insufflation of Hydrogen Gas as an Infallable Diagnostic Measure in Intestinal Perforation, by Drs. Joseph Price and C. B. Penrose; Removal of the Kidney for Traumatism, by Dr. Mordecai Price; Nephrectomy for New Growths, by Dr. John B. Deaver; Removal of the Uterine Appendages as a Remedial Measure, by Dr. S. T. Davis; Memoranda of the Life and Character of Dr. Benjamin Rush, by Dr. J. H. Musser; Communication from the Committee of Visitors to the Asylums for the Insane of Philadelphia to the State Board of Lunacy; The Specific Treatment of Typhoid Fever, by Dr. W. F. Waugh; The Hypodermic Use of Cocaine in Migraine and Bronchial Asthma, by Dr. T. D. Dunn; The Irrational Use of Commercial Pepsin, by Dr. E. Allen Wood; Some Influences of Disease Upon the Mind, by Dr. J. Chris. Lange; The Cause and Treatment of Psoriasis, by Dr. J. V. Shoemaker; The Prevention of Ear Diseases by Care in Childhood, by Dr. L. J. Lautenbach; Aural Vertigo, by Dr. C. H. Burnett; Gouty Sore Throat, by Dr. Harrison Allen; Two New Retinal Symptoms in Brain Diseases, by Dr. Albert G. Heyl; and reports from the counties of Allegheny, Armstrong, Delaware and York.

The *Fortieth Annual Meeting* was held in Pittsburg, June 4, 1889, at the Bijou Theatre, at 10 A. M. An announcement having been made of the terrible calamity which had occurred at Johnstown, Cambria County, on motion, the sympathy of the Society was extended to the people of that place, and to the profession and the families of those who had suffered. The sum of $1000 was appropriated to the profession of that locality, and directed to be paid Dr. Schill, the Treas-

urer of the County Society. After some discussion upon the condition of the railroads, and the inability of the members to get to the place of meeting, on motion, the Society adjourned until September, 1889, to meet at the call of the Chairman of the Committee of Arrangements. (At this time both railroads, the Pennsylvania and the Baltimore & Ohio, were so much destroyed in places that it was impossible without danger and delay to reach Pittsburg from any part of the State.)

The Committee held a meeting, July 15, 1889, and adopted resolutions reciting certain reasons, among which the sorrow and suffering from the great calamity were particularly mentioned, for the meeting to be omitted until the second Tuesday of June, 1890. This was sent by the Permanent Secretary to the county societies and the journals.

The Society assembled in Pittsburg, in the Bijou Theatre, June 10, 1890, at 10 A. M. The rules were suspended to allow Dr. W. G. Wagoner, of Cambria County, to deliver an address relative to the Johnstown calamity. 2250 copies of the Transactions were issued for the previous meeting. The order requiring the place and date of graduation of members to be published was rescinded. It was also agreed that the program need not be printed with the Transactions in future. The Presidents of the County Societies were constituted a Legislative Committee to secure the passage of a law to protect the people against incompetent practitioners of medicine, the expenses to be paid by the State Society.

The following was adopted:

Resolved, That it is the sense of this Society that the duties of the Medical Superintendents of our State Insane Asylums should be restricted exclusively to the treatment of the insane inmates; also, that one or more female physicians should be appointed, whose duty, under the control of the Superintendent, shall be to have charge of the female insane patients; and we urge the Legislature to enact such laws as shall make these reforms obligatory.

Officers for the ensuing year: President, Dr. Alexander Craig, Lancaster County; Vice-Presidents, Drs. F. H. Van Valzah, Mifflin County; Thomas McKennan, Washington County; William S. Foster, Allegheny County, and Samuel D. Bell, Butler County; Permanent Secretary, Dr. Atkinson; Recording Secretary, Dr. C. W. Dulles; Corresponding Secretary, Dr. Israel Cleaver, Berks County; Treasurer, Dr. G. B. Dunmire. Next place of meeting: Reading, first Tuesday in June, 1891. The Committee on Clinical Research reported not very great success, but asked a continuance; which was granted. Fraternal relations were established with the Pennsylvania Pharmaceutical Association. It was agreed to secure the incorporation of the State Society, and the Judicial Council were named as the Trustees.

A revised constitution was presented, and ordered to be printed in the Transactions. It having been brought to the notice of the Society that an address had been printed in a daily paper, with the portrait of the author, it was resolved that the address be omitted from the Transactions. This year the officers for the next year, censors, members present at the session, were printed at the beginning of the volume.

There were in attendance 348 persons, from the counties of Allegheny, Armstrong, Beaver, Bedford, Berks, Blair, Bradford, Bucks, Butler, Cambria, Carbon, Centre, Chester, Clarion, Clearfield, Clinton, Crawford, Cumberland, Dauphin, Delaware, Elk, Erie, Fayette, Franklin, Greene, Huntingdon, Indiana, Jefferson, Lancaster, Lawrence, Lebanon, Lehigh, Lycoming, Mercer, Mifflin, Montgomery, Montour, Northampton, Perry, Philadelphia, Schuylkill, Somerset, Susquehanna, Venango, Warren, Washington, Westmoreland and York. A page in memoriam of Dr. Henry Hollingworth Smith was placed before the minutes. The volume contained 339 pages, comprising minutes, report of the revision of the Constitution, on the Medical Examiners and Licensers Bill, proposed Act to establish a State Board of Medical Examiners, Address to the Medical Profession of the State (showing a few of the reasons for the action to procure this enactment); The President's Address, by Dr. J. B. Murdoch (The Medical Profession, Medical Legislation, and Individual Responsibility); How the Physicians of Johnstown Were Relieved After the Flood, by Dr. G. W. Wagoner; Address in Medicine, by Dr. J. C. Wilson; in Hygiene, by Dr. T. J. Mays; in Surgery, by Dr. J. B. Roberts; in Obstetrics, by Dr. Frances N. Baker; in Mental Disorders, by Dr. Alice Bennett; papers entitled, 340 Cases of Labor, by Dr. J. M. Batten; Intra-Ocular Syringing in Cataract Extraction, by Dr. J. A. Lippincott; The Management of Obstinate Dropsies, by Dr. James Tyson; Trephining in Traumatic Insanity, by Dr. S. Ayers; Living Creatures Feeding on Human Remains in the Grave, by Dr. Traill Green; Arsenite of Copper, by Dr. John Aulde; Rational Midwifery, by Dr. J. M. Duff; The Deadly Spur (Secale Cornutum), by Dr. G. B. Dunmire; Preparation for Abdominal Work, by Dr. M. Price; Suppurating Ulcer of the Cornea, by Dr. E. Jackson; Errors of Refraction Developed by Loss of Accommodation, by Dr. G. H. Cline; Melanotic Sarcoma of the Choroid and Ciliary Body, by Dr. W. C. Bane; The Continuous Application of Dry or Moist Heat by Steam, by Dr. G. M. Shillito; La Grippe or Epidemic Influenza, by Dr. A. B. Brumbaugh; Prolapsus of the Rectum in Children, by Dr. H. R. Wharton; The Physiological and Therapeutical Action of Sulphur, by Dr. J. V. Shoemaker; reports from eight county societies.

The *Forty-first Annual Meeting* was held in Reading, June 2, 1891, in the Academy of Music, at 9.30 A. M. The register showed the names of 301 persons, from the counties of Allegheny, Armstrong, Berks, Blair, Bradford, Bucks, Butler, Cambria, Carbon, Centre, Chester, Clarion, Clearfield, Clinton, Crawford, Cumberland, Dauphin, Delaware, Erie, Franklin, Greene, Huntingdon, Indiana, Jefferson, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Montgomery, Montour, Northampton, Northumberland, Perry, Philadelphia, Schuylkill, Snyder, Warren, Washington, Westmoreland and York.

This was the meeting under the Act of incorporation. The Constitution was substantially as before, with a few minor differences; each officer was now elected annually, save the Trustees or Judicial Council, who were in turn elected for three years. The third Tuesday in May

was made the day of meeting. Owing to the appropriation of the annual sum to the Rush Monument Fund, and that to the Johnstown sufferers, the treasury had gotten down to a small surplus—$800. 2500 copies of the annual volume were printed. A committe of seven was appointed to organize the profession of Pennsylvania in the interest of a medical examiners bill, and $200 was appropriated for the expenses. A committee was appointed to appeal to the Governor to fill the first vacancy that shall occur in the Board of Public Charities by the appointment of an enlightened and philanthropic woman.

Officers for the ensuing year: President, Dr. Samuel L. Kurtz, Berks County; Vice-Presidents, Drs. J. B. Roberts, Philadelphia County; H. G. McCormick, Lycoming County; H. A. Whitcomb, Montgomery County, and I. C. Gable, York County; Dr. Atkinson, Secretary; Dr. C. W. Dulles, Assistant Secretary; Dr. G. B. Dunmire, Treasurer. Next place of meeting, Harrisburg.

A number of amendments to the By-Laws were adopted, and the Charter and By-Laws are printed as thus amended. The Legislative Committee was formally appointed, and authorized to work to procure the enactment of a bill to protect the people from incompetent practitioners. The volume contained 268 pages, including the Address of the President, Dr. Alexander Craig (The State Medical Society Then and and Now); the Charter and By-Laws; Address in Medicine, by Dr. J. C. Lange; in Hygiene, by Dr. A. B. Brumbaugh; in Mental Disorders, by Dr. S. Ayers; in Surgery, by Dr. O. H. Allis; in Ophtnalmology, by Dr. J. A. Lippincott; in Obstetrics, by Dr. J. Milton Duff; papers entitled Typhoid Fever, by Dr. W. F. Waugh; Tape-worm, by Dr. J. M. Batten; Treatment of Subacute Pleuritis, by Dr. J. M. Anders; History of the Medical Profession of Berks County, by Dr. Israel Cleaver; Contagion Theory and Treatment of Consumption, by Dr. T. J. Mays; Remarks on Consumption, by Dr. W. T. Bishop; Curability of Consumption, by Dr. C. W. Dulles; Conditions Following Parturition Requiring Abdominal Section, by Dr. E. E. Montgomery; What To Do for Incipient Cataract, by Dr. Edward Jackson; Catarrh, by Dr. Charles R. Earley; Pharmacology and Therapeutics of Euphorbia Pilulifera, by Dr. John Aulde; reports from the counties of Butler, Fayette, Lancaster, Montour, Northampton and Susquehanna. These reports have now become merely a record of the doings of the county society, or an obituary of a deceased member.

The *Forty-second Annual Meeting* was held in Harrisburg, May 17, 1892, at the Capitol, at 9.30 A. M. The register shows the names of 344 persons, from the counties of Adams, Allegheny, Armstrong, Berks, Blair, Bradford, Bucks, Butler, Cambria, Carbon, Centre, Chester, Clarion, Clearfield, Clinton, Columbia, Crawford, Cumberland, Dauphin, Delaware, Elk, Erie, Favette, Franklin, Greene, Huntingdon, Indiana, Jefferson, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Mifflin, Montgomery, Montour, Northampton, Northumberland, Perry, Philadelphia, Schuylkill, Snyder, Somerset, Susquehanna, Venango, Warren, Washington, Westmoreland and York, 50 in all. 2400 copies of the Transactions were issued. After the reading from

a paper on "Memoriter Methods in Public Schools for the Promotion of the Pupils," a committee was appointed to whom the subject was referred. The subject of State Provision for Epileptics was referred to a special committee. The following was adopted:

"*Whereas*, The medical societies of Berks, Bedford, Chester, Lehigh, Lycoming, Mifflin, Montgomery, Northampton, Perry, Schuylkill, Somerset and Westmoreland, and perhaps others, have passed resolutions in favor of conferring the entire control and management of our hospitals for the care of the insane on the Board of Trustees of these institutions—now under the care of the Superintendents—and of making it incumbent on them to appoint women physicians, to have the medical care of the insane of their sex; and,

"*Whereas*, This Society at its meeting in 1890 passed resolutions in favor of the reform advocated by the county societies above named; and,

"*Whereas*, The marked success of the management by Trustees in the Eastern Hospital at Norristown, and the value of female physicians for the female insane, have been grandly exemplified in that institution with its two thousand patients; therefore,

"*Resolved*, That a committee be appointed by the President of this Society to memorialize the Legislature for the enactment of laws to carry these reforms into effect."

Greetings were exchanged with the State Societies of Illinois, Iowa, Missouri, and North Carolina. One thousand dollars were appropriated to enable the Committee on Legislation to continue their work for a State Board of Examiners and Licensers. The special committee to consider the Memoriter Method in Public Schools reported: "That this Society approves the efforts of the Central Board of Education of Pittsburg in their endeavors to do away with the *per centum* method of school examinations, as suggested by a petition to Congress from the American Medical Association, at its meeting in Washington last May." This was unanimously adopted.

Officers for the ensuing year: President, Dr. Henry L. Orth, Dauphin County; Vice-Presidents, Drs. J. B. Roberts, Philadelphia County; W. B. Ulrich, Delaware County; J. J. Finerty, Erie County, and Levi S. Gaddis, Fayette County; Secretary, Dr. W. B. Atkinson, Philadelphia County; Assistant Secretary, Dr. J. Connelly, Lycoming County; Treasurer, Dr. G. B. Dunmire, Philadelphia County. Place of meeting, Williamsport. The following was adopted:

Resolved, That the Medical Society of Pennsylvania hereby expresses its highest disapprobation of the practice of giving certificates or testimonials to secret preparations alleged to be of medical virtue, and calls the attention of the affiliated county societies to the fact, that such action on the part of members of said societies is in derogation of the dignity of the profession, and in violation of the letter and spirit of the Code of Ethics;

Resolved, That this Society likewise expresses its disapprobation of the practice of inserting advertisements of secret preparations in the columns of medical journals, such action being an insult to the intelli-

gence of the profession, and a degradation of journals indulging therein to the level of the patent medicine almanac. Especially to be condemned is the action of the *Journal of the American Medical Association* in admitting such advertisements.

These were ordered to be sent to the journals and the county societies. It was resolved to memorialize Congress to appoint a Cabinet Officer to be known as the Medical Secretary of Public Health. The county societies were requested to appoint delegates to the Pan-American Medical Congress, to be held in Washington in 1893. The President was directed to appoint a committee, to be called the Committee on Scientific Business, to co-operate with the Committee of Arrangements and Credentials in securing for the next meeting scientific papers and discussions. (This has acted well, and greatly increased the value of the meetings and of the Transactions.) It was resolved that it is the sense of this Society that no physician should be permitted to carry on the retail drug business without proper qualifications as determined by an examination in Practical Pharmacy. And further, that the Pennsylvania Pharmaceutical Association should use its best efforts in securing action prohibiting druggists who are not registered physicians from prescribing for disease.

It was resolved to petition the Legislature to establish a second institution for idiotic and feeble-minded persons in the western part of the State. The Committee on Publication were directed to insert a memorial page for Dr. D. Hayes Agnew. The volume contains 234 pages, made up of minutes, report of the Legislative Committee, of the Committee on Rush Monument Fund, Address of the President (A History of Medicine); Address in Otology, by Dr. George H. Rohrer; in Surgery, by Dr. Thomas D. Davis; in Medicine, by Dr. J. H. Musser; in Obstetrics, by Dr. H. G. McCormick; in Hygiene, by Dr. A. A. Woods; papers entitled Mechanical Treatment of Trachoma, by Dr. Edward Jackson; Treatment of Diphtheria, by Dr. J. M. Batten; Relation of Neuropathic Insanity to Crime, by Dr. H. C. Wood; The Value of Some New Medicaments, by Dr. H. A. Hare; Fifty Consecutive Abdominal Sections, by Dr. X. O. Werder; The Application of Artificial Limbs, by Dr. M. Price; Causes of Failure in the Treatment of Appendicitis, by Dr. E. Laplace; Colotomy and Sacral Resection for Artificial Anus, by Dr. E. E. Montgomery; Endometritis, by Dr. J. M. Baldy; Special State Provision for Epileptics, by Dr. Theodore Diller; Original Recommendations in Surgery, by Dr. W. L. Estes; Insanity Following Surgical Operations, by Dr. Joseph Leidy; and reports from the counties of Clarion, Fayette, Philadelphia and Washington, giving obituaries of Drs. Smith Fuller, William S. Duncan, C. L. Gummert, D. Hayes Agnew and J. W. Alexander.

The *Forty-third Annual Meeting* was held in Williamsport, May 16, 1893, at the Lycoming Opera House, at 9.30 A. M. There were registered 229 names. from the counties of Allegheny, Armstrong, Berks, Blair, Bradford, Bucks, Butler, Centre, Chester, Clearfield, Clinton, Columbia, Cumberland, Dauphin, Delaware, Elk, Erie, Franklin, Fayette, Greene, Huntingdon, Indiana, Jefferson, Lancaster, Lebanon,

Lehigh, Luzerne, Lycoming, Mifflin, Montgomery, Montour, Northumberland, Philadelphia, Schuylkill, Susquehanna, Warren, Wayne, Westmoreland and York, with representatives from New Jersey and New York.

2500 copies were issued of the volume of Transactions. An amendment was adopted providing for the Committee on Scientific Business. The committee on Legislation reported the passage of an Act for Examining and Licensing Practitioners of Medicine. The Rush Monument Fund Committee reported progress. It was resolved that this Society respectfully requests the Legislature to inquire into the crowding of the insane in the asylums, and provide additional accommodations to meet the exigencies of the case. The prevalence of cholera abroad was alluded to, and its relation to polluted water supplies, and the fact that many streams used as domestic sources of supply were being seriously polluted; and it was resolved that the Society respectfully ask the Legislature to consider the importance of enacting a law for the prevention of the pollution of streams and other inland waters used as sources of domestic water supply in this State.

Officers for the ensuing year: President, Dr. H. G. McCormick, Lycoming County; Vice-Presidents, Drs. Adolph Koenig, Allegheny County; S. W. Latta, Philadelphia County; J. K. Robbins, Columbia County, and S. S. Towler, Butler County; Secretary, Dr. W. B. Atkinson, Philadelphia County; Treasurer, Dr. G. B. Dunmire, Philadelphia County. Next place of meeting, Gettysburg.

The Legislature was again urged to provide additional accommodations for the feeble-minded. After a full discussion the delegates to the American Medical Association were instructed to oppose any change in the Code of Ethics. (An effort in this direction had been made at the previous session of the American Medical Association.)

The following was adopted:

Whereas, Experience both in this country and abroad shows that by strict antiseptic measures the mortality in lying-in hospitals may be reduced to a minimum; and,

Whereas, Deaths due to child-birth are yet too common in private practice;

Resolved, That in the opinion of this Society it is the duty of every physician practicing midwifery, to as far as possible surround such cases in private practice with the same safeguards as are being used in hospitals.

The volume contained 288 pages, composed of the minutes, report of the Legislative Committee, the New Medical Law of Pennsylvania; the Address in Medicine, by Dr. S. W. Latta; in Laryngology, by Dr. J. Walter Park; in Hygiene, by Dr. S. G. Dixon; in Surgery, by Dr. W. Murray Weidman; in Mental Disorders, by Dr. John Curwen; in Obstetrics, by Dr. Thomas D. Dunn; papers entitled When Cataract is Ready for Operative Treatment, by Dr. Edward Jackson; Prevalent Errors in the Treatment of Diseases of Women, by Dr. G. B. Massey; Rest in the Treatment of Pulmonary Consumption, by Dr. T. J. Mays; Carcinoma of the Uterus, by Dr. J. M. Baldy; New Remedies in the

Treatment of Skin Diseases, by Dr. J. V. Shoemaker; Movable Kidney and Symptoms Arising from It, by Dr. S. Ayres; Intubation with Report of Cases, by Dr. G. D. Nutt; Extra-Uterine Pregnancy, by Dr. M. Price; Heart Disease or Kidney Disease? by Dr. James Tyson; Simplicity in the Treatment of Fractures, by Dr. J. B. Roberts; Suture of the Tendo-Achillis in the Correction of Deformities of the Foot, by Dr. H. Augustus Wilson; Treatment of Scarlet Fever, by Dr. W. C. Hollopeter; Bright's Disease, by Dr. J. M. Batten; Insanity and Quasi-Insanity in Children, by Dr. C. K. Mills; Hypnotism and Suggestion, by Dr. Theodore Diller; Improvement in Hearing After Removal of Polypi and Granulations from the Middle-Ear, by Dr. L. J. Lautenbach; Increasing Prevalence of Scabies, by Dr. H. W. Stelwagon; reports from the counties of Clarion and Cumberland (obituary of Dr. George Grove).

The *Forty-fourth Annual Meeting* was held at Philadelphia. (Owing to the destruction by fire of the principal hotel in Gettysburg, the Philadelphia County Medical Society invited the Committee of Arrangements to arrange for the meeting to be held in Philadelphia.) The session was held May 15, 1894, at the Presbyterian Church, northeast corner Twelfth and Walnut Streets, at 10 A. M.

The Legislative Committee reported the appointments of members of this Society on the Board of Examiners and Licensers. The first examination was held June 11, 1894. It was resolved that a committee be appointed to aid in the procuring of the passage of a law to prevent ophthalmia neonatorum and the consequent blindness so prevalent throughout the world. It was resolved that a Legislative Committee be appointed to present the subject of the care and treatment of the insane, and the organization of hospitals for the insane, to the Legislature. A committee was appointed to consider the feasibility of the appointment of an Inspector to aid the State Board of Medical Examiners. A protest was presented against the use of the term "Allopathic." Again it was agreed that this Society opposes any change in the Code of Ethics. After proper discussion it was resolved that this Society protests against the proposed reduction in the Naval Medical Staff, as likely to interfere with the continuation of the present high standard of proficiency, etc.

After the reading of a paper, and much discussion, it was resolved that this Society opposes the admission to the pages of the *Journal of the American Medical Association* of notices of secret nostrums and other objectionable advertisements, and the delegates were instructed to use every honorable means to secure such action as will effectually remedy this state of things. The county societies were requested to forward at once to the Secretary of the State Board of Medical Examiners lists of registrations in the respective counties, and the sum of $500 was appropriated to properly carry on this work. The subject of provision for epileptics was brought up, and it was resolved that it is the sense of this Society that an Epileptic Colony should be established, and maintained by the State for the benefit of this class of people; and a memorial was directed to be sent to the Legislature on the subject.

Officers for the ensuing year: President, Dr. John B. Roberts, Philadelphia County; Vice-Presidents, Drs. S. C. Stewart, Clearfield County; J. A. Lippincott, Allegheny County; J. H. Wilson, Beaver County, and R. Armstrong, Clinton County; Secretary, Dr. Atkinson; Assistant Secretary, Dr. H. G. Chritzman, Franklin County; Treasurer, Dr. Dunmire. Next place of meeting, Chambersburg.

It was resolved that this Society earnestly petitions the appropriation committee of the United States Senate to restore the annual appropriation of $10,000 to Library of the Surgeon General's Office, as the curtailing of the amount would be a national disaster to the medical profession. The officers of the Society were instructed to carry out the suggestions in the President's Address, relative to the improvement in the county societies and their extension in number of members, and the organization of societies in counties not already provided with societies. Resolutions were adopted again objecting to the term "Allopathic," and urging the State Board of Medical Examiners to use its influence in preventing this epithet being applied to the members of the regular profession. The bill before Congress providing for the appointment of a Secretary of Public Health, with a seat in the Cabinet, was unanimously endorsed, and the members of Congress from the State urged to favor its passage. The subject of a law not allowing physicians to be compelled to give testimony in cases where confidential communications would be divulged was referred to the Legislative Committee.

The volume contained 442 pages, comprising the minutes, report of the Committee on Contagious Diseases of the Eye, Address of the President; the Address in Surgery, by Dr. G. D. Nutt; in Medicine, by Dr. W. S. Foster; in Mental Disorders, by Dr. T. M. T. McKennan; in Obstetrics, by Dr. E. E. Montgomery; in Hygiene, by Dr. J. H. Wilson; in Ophthalmology, by Dr. G. E. De Schweinitz; papers entitled Puerperal Eclampsia and Its Treatment, by Dr. J. C. McAllister; Modification of Pirogoffs Amputation, by Dr. F. LeMoyne; Chronic Appendicitis, by Dr. J. B. Deaver; Stricture of the Urethra, by Dr. O. Horwitz; Cramming in Medical Schools, by Dr. O. H. Allis; Effects of La Grippe on Respiratory Mucous Membranes, by Dr. D. Braden Kyle; Treatment of Naso-Pharyngeal Catarrh, by Dr. W. R. Hoch; Rural Sanitation, by Dr. T. H. Weagley; Christian Science and Its Relation to the Medical Profession, by Dr. H. H. Longsdorf; Should the Journal of the American Medical Association be Used to Promote Quackery? by Dr. S. Solis-Cohen; Surgery of the Gall Bladder, by Dr. X. O. Werder; Croup and Diphtheria, by Dr. B. H. Detwiler; Muscular Asthenopia and Its Treatment by Graduated Tenotomy, by Dr. C. H. Thomas; Intra-Nasal Surgery and Polyps, by Dr. W. H. Daly; Typhoid Fever and its Aseptic Treatment, by Dr. A. Koenig; Hydrophobia, by Dr. C. W. Dulles; Dietetics, by Dr. H. F. Slifer; Studies in Obstetrics and Gynecology, by Dr. Anna M. Fullerton; Therapeutics of Whooping Cough, by Dr. W. C. Hollopeter; Amputation Near the Ankle, by Dr. G. G. Davis; Treatment of Diarrheal Diseases, by Dr. John Aulde; Incipient Inflammations of the Ear in Early Life and Their Sequellæ, by Dr. S. McCuen Smith; Chronic Tympanic

Vertigo, by Dr. C. H. Burnett; Massage Methods for Improvement of the Hearing, by Dr. L. J. Lautenbach; Contagious Aspect of Pulmonary Tuberculosis, by Dr. A. M. Cooper; Prophylaxis in Tuberculosis, by Dr. L. F. Flick; Medical Tuberculosis, by Dr. H. Hamilton; Strychnine Treatment of Pulmonary Consumption, by Dr. T. J. Mays; Tubercular Meningitis, by Dr. D. Longaker; Colorado for Consumptives, by Dr. W. P. Munn; Tuberculosis of the Fallopian Tubes, by Dr. C. B. Penrose; Tuberculosis of the Knee-joint, by Dr. E. B. Haworth; Treatment of Corneal Ulcer by the General Practitioner, by Dr. S. Lewis Ziegler; A cause of Failure in the Surgical Treatment of Internal Strabismus, by Dr. H. F. Hansell; Capsulotomy Immediately following the Removal of Cataract, by Dr. L. W. Fox: Unusual and Peculiar Cases, by Dr. J. M. Batten; Clinical Observations on Psoriasis, by Dr. J. V. Shoemaker; The Radical Cure of Hernia, by Dr. E. Laplace; Uterine Fibroids, by Dr. C. P. Noble; Symphisiotomy and Other Procedures for Delivery through Contracted Pelvis by Dr. Horace Fox; Reports of County Societies, comprising obituaries of Drs. E. A. Wood, Martin Luther, H. M. Nagle, Thomas J. Dunott, Isaac N. Kerlin, James A. Fulton.

The *Forty-fifth Annual Meeting* was held at Chambersburg, May 21, 1895, at the Court House, at 9 A. M. There were registered 250 names from the Counties of Allegheny, Beaver, Berks, Blair, Bradford, Bucks, Butler, Cambria, Carbon, Chester, Clarion, Clearfield, Clinton, Cumberland, Dauphin, Delaware, Fayette, Franklin, Greene, Huntingdon, Indiana, Jefferson, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Mercer, Mifflin, Montgomery, Montour, Northampton, Northumberland, Perry, Philadelphia, Schuylkill, Warren, Washington, Westmoreland and York, visitors from New Jersey, Washington, D. C., and Maryland.

The President presented his views as to the business methods of the Society, which were referred to a special committee. The efforts of the committee appointed last year to extend the membership of the Societies appeared to have borne good fruit, there was an enlargement of the membership and many counties and others were in process of being revived or organized. There are now 50 Societies in good working order and a membership of nearly 3000. 2750 copies of the Transactions were printed; there was a balance in bank for the Society of over $2000. The work of the Scientific Business Committee has resulted well for the Society in producing a large number of valuable papers on a variety of important subjects. Relations were fully established with the Pennsylvania Pharmaceutical Association, and the use of the Pharmacopeia and the National Formulary was urged upon the members so as to avoid the employment of unofficinal preparations or those which were truly proprietary, and of which too often the real formula was not known. It was ordered that the program should be furnished to the Committee of Arrangements by the Business Committee at least 30 days before the date of meeting. It was

Resolved, That it is the sentiment of the Society that it would be advantageous both to the manufacturer and the consumer if the manufac-

turing chemists would eliminate all indications for treatment, etc., from their catalogues, and that all remedies manufactured for the use of the profession should be presented with a plain statement of their ingredients.

The Registration of Vital Statistics was brought up and its importance shown, and a resolution was adopted urging passage of a bill by the legislature to authorize the State Board of Health to employ a clerk for the work and to confer the powers of a Board of Health upon the school board of each township, and so to increase the appropriation to the Board as to enable it to efficiently perform its duties as assigned by law.

Officers for the ensuing year: President, Dr. William S. Foster, Allegheny County; Vice-Presidents, Drs. John Montgomery, Franklin County; A. P. Hull, Lycoming County; T. H. Sharpnack, Greene County; and A. B. Brumbaugh, Huntingdon County; Secretary, Dr. Atkinson; Assistant Secretary, Dr. C. L. Stevens, Bradford County; Treasurer, Dr. Dunmire. Next place of meeting Harrisburg. A standing rule was adopted that the Committee of Arrangements might grant the privilege of exhibition under the auspices of the Society only to such pharmaceutical articles as are recognized by the United States Pharmacopeia, or are not protected by trade mark, secrecy of preparation, or other exclusive proprietorship.

By special resolution the American Medical Association was congratulated upon the decision to exclude unethical advertisements from the journal. A committee was appointed to call the attention of other journals to this action and request them also to acceed to the wishes of the profession by adopting a similar rule. The Secretary was invited to prepare a complete history of the Society, its conception, birth and growth, and present it at its next annual meeting. The State Board of Health was requested to rigidly inspect the vaccine propagating establishments. Again the importance of a Central Health Bureau was urged upon the attention of Congress.

The volume contained 504 pages, comprising the minutes, Report of the Committee on Pharmacy, giving a list of new officinal drugs, in alphabetical order, of the Committee on Legislation, showing satisfactory progress in obtaining legislation asked for, of the State Board of Medical Examiners, with a list of those who had been examined and licensed by the Board; Address of the President, (the Present Attitude of Physicians and Modern Medicine toward Homeopathy); in Medicine, by Dr. I. C. Gable; in Hygiene (the Moral Factor in Hygiene), by Dr. Hildegarde H. Longsdorf; in Obstetrics, by Dr. W. B. Ulrich; in Surgery, (some Surgical Mistakes of the General Practitioner), by Dr. C. L. Stevens; in Mental Disorders, by Dr. F. X. Werder; in Otology, by Dr. L. H. Taylor; and papers entitled Some Sequellæ of Typhoid Fever, by Dr. Thomas D. Dunn; Treatment of Malignant Tumors by Toxins, by Dr. J. B. Roberts; The Cold Tub-bath for Typhoid Fever, by Dr. James Tyson; Prophylaxis of Pelvic Inflammations, by Dr. J. M. Baldy; Tuberculosis, by Dr. J. M. Batten; Ocular Affections associated with Lithemia, by Dr. S. D.

Risley; Treatment of Diphtheria, by Dr. W. S. Stewart; Cystitis, Acute and Chronic, by Dr. J. Warren Roop; Treatment of Nevus, by Dr. H. R. Wharton; Adoption of the Individual Communion Cup, by Dr. H. S. Anders; Diagnosis and Treatment of Acute Intestinal Obstruction, by D. J. M. Barton; Electrical Treatment of Uterine Affections, by Dr. G. B. Massey; Moveable Kidney, by Dr. C. P. Noble; Registration of Vital Statistics, by Dr. Benjamin Lee; Ten Minutes in Medical Electricity, by Dr. G. S. Hull; Isolation and Advertisement of Contagious Diseases, by Dr. F. LeMoyne; Rupture of the Tendon of the Quadriceps, by Dr. J. J. Buchanan; Intra-Tympanic Disease, by Dr. Joseph E. Willetts; Treatment of Typhoid Fever by Guaiacol, by Dr. A. P. Hull; Typhoid Fever in Private Practice, by Dr. M. G. Motter; Microbes and Moulds, their effects, by Dr. W. T. W. Dickeson; Treatment of Earache, by Dr. L. W. Moyer; Fat in Pulmonary Consumption, by Dr. T. J. Mays; Heredity, by Dr. Jane K. Garver; Management of Typhoid Fever, by Dr. H. G. McCormick; Labor Complicated by Typhoid Fever, by Dr. W. M. Findley; Mental Influences in the Treatment of Disease, by Dr. Theodore Diller; Prevention of Typhoid Fever, by Dr. G. G. Groff; Laryngeal Diphtheria treated by Antitoxin, by Dr. Edwin Rosenthal; Deaf Mutes—Can they be made to Hear? by Dr. L. J. Lautenbach; Ligation of Arteries in Malignant Disease, by Dr. J. H. Packard; Adenoid Growths of the Pharynx, by Dr. Harrison Allen; Alcoholic Vapor Bath for Suppression of Urine, by Dr. F. S. Nevling; Bacteriological Examinations in Medicine and Surgery, by Dr. Joseph McFarland; Faith and Therapeutics, by Dr. H. G. Chritzman; Dangers that beset Vaccine Virus, by Dr. H. M. Alexander; A Degenerate Materia Medica, by Dr. H. A. Arnold; Nervi-Muscular Atony in Girls, by Dr. Kate DeW. Meisse; Auto-Intoxication, by Dr. A. Enfield; The Emotional Brain, by Dr. Benjamin Lee; Treatment of Fistula in Ano by Suture of Tract, by Dr. L. H. Adler, Jr.; Pharmacy in the Medical Profession, by Dr. S. S. Good; Massage in Surgery, by Dr. James K. Young; Relation of Convergence to Accommodation, by Dr. H. F. Hansell; Aconitin in Neuralgia, by Dr. J. N. Hunsberger; Treatment of Fracture of the Femur near the Hip, by Dr. E. V. Swing; Contribution to the Study of Deaf-Mutism, by Dr. A. A. Bliss; Functional Nerve Troubles and Eye Strain, by Dr. Jean Saylor-Brown; Phthisis Pulmonalis, its Prevention and Cure, by Dr. A. Chamberlain; Hydrocephalus cured by Tapping, by Dr. H. Garey; Ventro-Fixation of the Uterus, by Dr. G. E. Shoemaker; Report on Hydrophobia, by Dr. C. W. Dulles; Empyema of the Mastoid, by Dr. S. McCuen Smith; Causes of Epidemic Influence, by Dr. W. J. K. Kline; Reports of the County Societies of Allegheny, etc., being memorials of Drs. Robert B. Mowry, Wilson Greene, James C. Short, John Buzzard and Levi Frey.

IN MEMORY OF FORMER PRESIDENTS.

HIRAM CORSON,

President at the Meeting of 1853.

Born October 8, 1804. Died March 4, 1896

AN ORGANIZER AND LEADER OF THE PROFESSION.

By his courage, energy and tact, he withstood opposition and overcame prejudice. He did more than any other to secure for women full recognition in the medical profession, and he left the strong impress of his thought on the plan of organization of hospitals for the insane. He was a valued contributor to the medical literature of this time.

WILLIAM ANDERSON,

President at the Meeting of 1866.

Born June 6, 1825. Died March 29, 1896.

A NOTABLE EXAMPLE OF QUIET DIGNITY AND UNASSUMING WORTH.

He devoted unusual abilities and high scholarship to the service of the community in which he lived, and the advancement of his profession. He made his biography of members of the medical profession of Indiana County a model of local history.

REES DAVIS,

President at the Meeting of 1887.

Born July 5, 1837. Died August 10, 1895.

ONE WHOSE SINCERITY, KINDNESS, GENERAL EDUCATION AND THOROUGH MASTERY OF HIS ART HELPED TO MAKE HONORABLE HIS PROFESSION.

His contributions to medical literature were clear, terse and of permanent value, and their range reflected his wide interest in surgery, obstetrics, medicine and hygiene.

PRESIDENTS OF THE SOCIETY.

*1848. Samuel Humes, M. D., Lancaster County.
*1849. Samuel Jackson, M. D., Philadelphia County.
*1850. Wilmer Worthington, M. D., Chester County.
*1851. Charles Innes, M. D., Northampton County.
*1852. Hiram Corson, M. D., Montgomery County.
*1853. John P. Heister, M. D., Berks County.
1854. Jacob M. Gemmill, M. D., Huntingdon County.
*1855. James S. Carpenter, M. D., Schuylkill County.
*1856. Rene La Roche, M. D., Philadelphia County.
*1857. John L. Atlee, M. D., Lancaster County.
*1858. Smith Cunningham, M. D., Beaver County.
*1859. D. Francis Condie, M. D., Philadelphia County.
*1860–61. Edward Wallace, M. D., Berks County.
*1862. George F. Horton, M. D., Bradford County.
*1863. Wilson Jewell, M. D., Philadelphia County.
1864. J. D. Ross, M. D., Blair County.
*1865. William Anderson, M. D., Indiana County.
*1866. James King, M. D., Allegheny County.
1867. Traill Green, M. D., Northampton County.
1868. John Curwen, M. D., Dauphin County.
*1869. Wm. M. Wallace, M. D., Erie County.
*1870. Samuel D. Gross, M. D., Philadelphia County.
*1871. J. S. Crawford, M. D., Lycoming County.
*1872. A. M. Pollock, M. D., Allegheny County.
*1873. S. B. Kieffer, M. D., Cumberland County.
*1874. Washington L. Atlee, M. D., Philadelphia County.
1875. Crawford Irwin, M. D., Blair County.
*1876. Robert B. Mowry, M. D., Allegheny County.
*1877. D. Hayes Agnew, M. D., Philadelphia County.
*1878. J. L. Stewart, M. D., Erie County.
*1879. Andrew Nebinger, M. D., Philadelphia County.
1880. John T. Carpenter, M. D., Schuylkill County.

*Deceased.

1881. Jacob L. Ziegler, M. D., Lancaster County.
1882. William Varian, M. D., Crawford County.
*1883. Henry H. Smith, M. D., Philadelphia County.
*1884. Ezra P. Allen, M. D., Bradford County.
*1885. E. A. Wood, M. D., Allegheny County.
*1886. Rees Davis, M. D., Luzerne County.
*1887. Richard J. Levis, M. D., Philadelphia County.
1888–89. J. B. Murdoch, M. D., Allegheny County.
1890. Alexander Craig, M. D., Lancaster County.
1891. Samuel L. Kurtz, M. D., Berks County.
1892. Henry L. Orth, M. D., Dauphin County.
1893. H. G. McCormick, M. D., Lycoming County.
1894. John B. Roberts, M. D., Philadelphia County.
1895. William S. Foster, M. D., Allegheny County.
1896. E. E. Montgomery, Philadelphia County.

*Deceased.

Officers and Members of County Societies.

(A date in brackets signifies the date of membership in the State Society.)

ALLEGHENY COUNTY.

Officers.

President,	Frank LeMoyne,	Pittsburg.
Vice-Presidents,	R. W. Stewart,	"
	S. D. Jennings,	Sewickley.
Recording Secretary,	Frank Gibson,	Pittsburg.
Assistant Recording Secretary,	J. E. Willets,	"
Corresponding Secretary,	W. T. Larimer,	"
Treasurer,	E. W. Day,	"

Stated Meetings at 76 Sixth Avenue, Pittsburg. For business the third Tuesday in January, April, July and October.

Scientific Meetings the third Tuesday of February, March, May, June, August, September, November and December.

Members.

Ahlers, G. L., Cedar and North aves., Allegheny
Allison, R. W., Wilkensburg
Allyn, G. W., 515 Penn av., Pittsburg [1890]
Anderson, J. H., 4714 Fifth Av., Pittsburg
Ankrim, L. T., 5201 Penn av., Pittsburg
Arnholt, M. A., 1802 Carson st., Pittsburg
Asdale, W. J., 2107 Penn av., Pittsburg [1868]
Ayres, Samuel, Westinghouse Bldg., Pittsburg [1883]
Bair, G. E., Braddock
Barchfield, A. J., 17th and Sarah sts., Pittsburg
Barr, J. A., McKee's Rocks [1896]
Bartilson, B. M., Braddock
Batten, J. M., 309 Fifth ave., Pittsburg [1876]
Beach, W. M., 89 Arch st., Allegheny [1896]
Beatty, R. C., 6227 Penn av., Pittsburg
Bennett, O. J., 282 Western av., Pittsburg
Beswick, G. L., Wilmerding
Blackburn, J. P., McKeesport
Blochley, O. L., Wilkinsburg
Blumberg, A., 97 Wylie av., Pittsburg [1890]
Blume, Frederick, 108 Liberty st., Allegheny
Bode, W. S. 2005 Carson st., Pittsburg
Boggs, J. C., 76 Pennsylvania av., Allegheny
Borland, E. B., 3464 Penn av., Pittsburg [1896]
Boucek, A. J., 62 Chestnut st., Allegheny
Boyce, J. W., 2530 Penn av., Pittsburg

Brockerhoff, J. M., 60 Sixth av., Pittsburg
Brumbaugh, S. O., Westinghouse Bldg., Pittsburg
Buchanan, J. J., 515 Penn av., Pittsburg [1890]
Burket, A. H., McKee's Rocks
Burket, J. H., Remington
Burleigh, W. T., 723 Carson st., Pittsburg [1890]
Cairns, D. H., Homestead
Cameron, M. C., 190 43d st., Pittsb'g
Carothers, W. M., Braddock
Cathcart, W. B., 203 Frankstown av., Pittsburg [1890]
Chessrown, A. V., 5443 Fifth av., Pittsburg
Christy, T. C., 820 Penn av., Pittsburg
Clark, A. C., 3420 Butler st., Pittsburg
Clark, H. E., Sheridanville
Clark, H. H., 3420 Butler st., Pittsburg
Clark, S. D. Verona
Clarke, R. C., 5445 Penn av., Pittsburg
Cole, W. W., 70 Arch st., Allegheny [1878]
Connell, J. G., 3519 Fifth av., Pittsburg [1890]
Cope, P. C., Braddock
Creaver, M. F., Avalon
Crombie, J. B., 54 Monterey st., Pittsburg
Daggette, A. S., Craig st., Pittsburg
Daly, W. H., Maeder Bldg., Pittsburg [1871]
Davidson, J. E., Frankstown av., Pittsburg [1890]
Davis, T. D., 6020 Penn av., Pittsburg [1890]
Davidson, J. E., 37 Lowry st., Allegheny
Day, E. W., Westinghouse Bldg., Pittsburg
Diller, Theo., Westinghouse Bldg., Pittsburg [1895]
Disque, T. C., Lewis Block, Pittsburg
Douthett, J. M., Westinghouse Bldg., Pittsburg
Doyle, J. A., Homestead
Duff, J. M., 2006 Carson st., Pittsburg [1890]
Duncan, J. A., 1739 Penn av., Pittsburg [1890]
Dunn, J. C., 4062 Penn av., Pittsburg [1875]
Easton, A., 58 Montgomery av., Allegheny [1876]
Eaton, P. J. N., Highland av., Pittsburg
Edsall, F. H., Westinghouse Bldg., Pittsburg [1892]
Elder, J. W., Dixmont
Elterich, T. J., 116 Washington st., Allegheny
Emmerling, C. M., Rebecca and Liberty sts., Pittsburg [1878]
Emmerling, Karl A., Liberty and Rebecca sts., Pittsburg
English, W. T., 62 Sixth av., Pittsburg [1895]
Espy, J. S., 4751 Liberty av., Pittsburg
Evans, J. P., 192 38th st., Pittsburg [1879]
Faulkner, R. B., 23 Ohio st., Allegheny
Fife, J. S., Bridgeville
Fife, T. M., Bennett
Fischer, E., 4426 Liberty st., Pittsburg
Fleming, A., 415 Penn av., Pittsburg [1878]
Fogelman, A., Munhall
Forcee, M. P., 76 Arch st., Allegheny
Foster, J. Watt, 133 Wylie av., Pittsburg
Foster, W. A., Crafton
Foster, W. S., 133 Wylie av., Pittsburg [1868]
Fundenburg, G. B., 5932 Penn av., Pittsburg
Fundenburg, W. F., Lewis Block, Pittsburg
Gardiner, F. G., 4919 Butler st., Pittsburg
Gaub, O. C., 2724 Sarah st., Pittsburg
Gibson, Frank, 5604 Penn av., Pittsburg
Gilliford, R. H., 231 Beaver av., Allegheny [1880]
Golden, J. P., 37 James st., Allegheny
Goulding, C. O., 6202 Penn av., Pittsburg

Graham, N. R., Main st., Sharpsburg
Green, J. J., 2530 Penn av., Pittsburg [1890]
Grube, R. H., 3813 Forbes st., Pittsburg
Hageman, J. A., 43 Boggs av., Pittsburg
Hager, Christian, Braddock
Hallock, W. E., 5th and Aiken aves., Pittsburg [1884]
Hardtmeyer, H. R., 132 Liberty st., Allegheny
Hartt, S. W., McKeesport
Hawkins, J. A., 42½ Sixth st., Pittsburg
Haworth, E. B., 2d and Hazelwood ave., Pittsburg [1894]
Hazzard, T. L., 56 Montgomery av., Allegheny [1892]
Heard, J. D., 6322 Station st., Pittsburg
Hechelmann, H. W., 502 Penn av., Pittsburg [1890]
Heckel, E. B., 524 Penn av., Pittsburg
Hengst, D. A., 515 Penn av., Pittsburg [1878]
Herron, R. G., 28 Ninth st., Pittsburg [1891]
Hersman, C. C., 1902 Carson st., Pittsburg [1894]
Hiett, G. W., 132 Wylie av., Pittsburg
Hitzrot, H. W., McKeesport [1896]
Hoffman, D. C., Nat. Mil. Home, O.
Hoffman, J. H., 111 Steuben st., Pittsburg
Hopkins, A. J., 6011 Penn av., Pittsburg
Hopkins, H. J., 6011 Penn av., Pittsburg
Huggins, R. R., Sharpsburg
Humphrey, W. N., Sharpsburg
Huselton, E. C., 36 N. Diamond st., Allegheny [1880]
Huselton, W. S., 71 Stockton av., Allegheny [1870]
Hutchinson, H. A., Dixmont [1890]
Irwin, J. C., 930 Penn av., Pittsburg
Jackson, C. Q., 63 Sixth av., Pittsburg
Jackson, S. B., 63 Sixth av., Pittsburg
Jennings, S. D., Sewickley
Johnson, T. D. B., 402 Larimer av., Pittsburg
Johnston, W. E., Etna [1890]
Jones, M. O., 111 Wylie av., Pittsburg [1890]
Jones, W. W., 251 Western av., Allegheny [1884]
Kearns, W. D., 1734 Penn av., Pittsburg [1885]
Kelly, C. M., Sharpsburg
Kerr, A. H., 2318 Eccles st., Pittsburg
Kerr, J. P., 2725 Carson st., Pittsburg
Kiddoo, S. R., Bridgeville
King, C. B., 87 Arch st., Allegheny
Kirk, J. A., Carrick
Kirk, J. J., 4908 Liberty st., Pittsburg
Kirk, W. H., 2421 Carson st., Pittsburg
Knox, W. F., McKeesport [1867]
Koeller, F., 102 S. 17th st., Pittsburg
Koenig, Adolph, 33 Ninth st., Pittsburg [1890]
Lange, J. C., 29 Ninth st., Pittsburg [1883]
Langfitt, W. S., Allegheny [1896]
Larimer, W. T., 72 Western av., Allegheny [1896]
Lee, J. M., 173 Centre av., Pittsburg
Legge, J. H., 170 41st st., Pittsburg
LeMoyne, Frank, 5431 Fifth av., Pittsburg [1878]
Lewin, A. L., 2827 Penn av., Pittsburg
Lippincott, J. A., 435 Penn av., Pittsburg [1882]
Litchfield, Lawrence, 5th av. and Neville st., Pittsburg
Logan, E. P., 26 Anderson av., Allegheny
Look, Henry A., 377 Fifth av., Pittsburg
Lyon, A. K., Bennett
Mabon, J. S., 515 Penn av., Allegheny [1890]
Macfarlane, J. W., 3817 Butler st., Pittsburg [1890]
Marshall, W. N., Hoboken
Matlack, J. H., Duquesne

Matson, E. G., 810 Penn av., Pittsburg
Matthiot, E. B., 820 Penn av., Pittsburg
Mercur, W. H., 426 Penn av., Pittsburg
Miller, J. A., Braddock
Miller, O. L., 220 North av., Allegheny
Miller, W. N., 1905 Carson st., Pittsburg
Milligan, J. D., 346 Spahr st., Pittsburg
Milligan, S. C., 434 Penn av., Pittsburg
Montgomery, E. S., 156 3d ave., Pittsburg
Morrison, R., Oakdale Station
Moyer, I. J., 285 Fifth ave., Pittsburg
Munford, J. R., 5027 Penn av., Pittsburg
Murdoch, F. H., 515 Penn av., Pittsburg
Murdoch, J. B., 132 Wylie av., Pittsburg [1876]
Murdoch, J. M., Dixmont
McCandless, J. Guy, 18 Centre av., Pittsburg [1896]
McCarrell, Jas., 67 Bidwell st., Allegheny [1878]
McCarrell, J. C., 67 Bidwell st., Allegheny
McCleary, W. W., Bellevue
McCord, J. P., 221 Carson st., Pittsburg
McCormick, J. C., 50 Shiloh st., Pittsburg
McCready, J. A., 2827 Penn av., Pittsburg
McCready, J. M., Sewickley
McCready, R. J., 151 Chestnut st., Allegheny
McCreight, W. C., 54 Anderson st., Allegheny
McCurdy, S. L., 515 Penn av., Pittsburg
McElroy, J. C., 90 Arch st., Allegheny
McGough, Peter, 308 Grant st., Pittsburg
McGrew, F. R., Mansfield Valley
McGrew, R. L., 213 Federal st., Allegheny
McKee, J. O., Mckeesport
McKelvey, W. H., 64 Sixth av., Pittsburg
McKennan, M. S., 3614 Bouquet st., Pittsburg
McKennan, T. M. T., 524 Penn av., Pittsburg [1890]
McKibben, S. H., 4062 Penn av., Pittsburg
McMannus, T. F., 328 5th av., Pittsburg
McNeil, G. W., 280 Frankstown av., Pittsburg [1890]
McWall, J. M., Wilkinsburg
Neff, E. L., 77 Arch st., Allegheny
Neelan, J. R., 6200 Penn av., Pittsburg
Newlin, H. S., McKeesport
Norris, Wm. J., 6114 Butler st., Pittsburg
O'Brien, W. D., 98 Hazlewood av., Pittsburg
O'Hail, J. C., 25 Montgomery av., Allegheny
Patterson, Stuart, 5604 Ellsworth av., Pittsburg [1894]
Pershing, F. S., Wilkinsburg
Pettit, A., 810 Penn av., Pittsburg ['90]
Phillips, F. J., 548 Wylie av., Pittsburg
Phillips, J. S., 54 Chestnut st., Allegheny
Phillips, J. W., 72 Centre av., Pittsburg
Porter, John, McKeesport
Price, A. D., 1347 2d av., Pittsburg
Price, B. F., Braddock
Price, J. H., DeHaven
Rahauser, G. G., 2519 Carson st., Pittsburg [1886]
Ralston, B. S., Penn av. and Main st., Pittsburg
Rankin, D. N., 86 Lincoln av., Allegheny [1867]
Reed, J. P., Crafton
Rex, T. A., 397 Fifth av., Pittsburg
Rickenback, J. F., 932 Penn av., Pittsburg
Rigg, J. E., Wilkinsburg
Riggs, D. W., 189 Market st., Allegheny
Riggs, E. S., 170 Pennsylvania av., Allegheny [1876]

Riggs, W. J., 209 Market st., Allegheny
Ritchey, J. B., 161 Sandusky st., Pittsburg
Robeson, W. F., 820 Penn av., Pittsburg [1892]
Robinson, T. C., Turtle Creek
Rodgers, M. A., 234 Western av., Allegheny
Ryall, T. M., 32 Wabash st., Allegheny
Sahm, W. K. F., Grant and Liberty sts., Pittsburg
Sample, John, Wilkinsburg
Sands, R. M., 4300 Butler st., Pittsburg
Scaperone, C. G. G., 25 Chestnut st., Pittsburg
Schlensog, J. J., 463 Fifth av., Pittsburg
Schooley, A. W., Braddock
Schulze, H. L., Surgeon's Hall
Scott, Wm., M., 6009 Penn av., Pittsburg
Shanor, J. D., 58 Chestnut st., Allegheny
Shaw, C. S., 419 Penn av., Pittsburg [1890]
Shaw, J. P., 488 Fifth av., Pittsburg
Shaw, T. W., 419 Penn av., Pittsburg [1866]
Shaw, W. C., 135 Wylie av., Pittsburg [1884]
Shillito, G. M., 160 Sandusky st., Allegheny [1890]
Slonaeker, A. L., 2122 Penn av., Pittsburg
Small, E. H., Penn av. and Negley st., Pittsburg [1891]
Snively, W., 85 Wylie av., Pittsburg [1878]
Solm, Chas., 4902 Liberty av., Pittsburg
Speer, A. M., 630 Penn av., Pittsburg
Speer, Geo. A., Etna
Srodes, J. L., Wilkinsburg
Staub, F. N., 2910 Penn av., Pittsburg
Sterrett, J. K., 6121 Penn av., Pittsburg
Sterrett, J. P., 6321 Penn av., Pittsburg [1884]
Stewart, J. G., Pitcarin
Stewart, R. C. M., 202 Frankstown av., Pittsburg
Stewart, R. W., 820 Penn av., Pittsburg [1890]
Stewart, S. S., 85 Pennsylvania av., Allegheny
Stewart, W. S., Braddock
Stillwagon, C. A., 4403 Penn av., Pittsburg
Straessley, F., 50 Chestnut st., Allegheny
Sweeney, F. F., Dravosburg, Pittsburg
Sweeney, G. B., 65 Washington av., Pittsburg
Taylor, Geo. B., 6229 Penn av., Pittsburg
Taylor, W. V. M., McKeesport
Thomas, J. D., 77 S. 13th st., Pittsburg [1872]
Thomas, S. E., 3606 Fifth av., Pittsburg
Thompson, J. C., 524 Penn av., Pittsburg
Thorn, J. M., McKeesport
Todd, F. L., 73 Arch st., Allegheny
Turfley, G. G., 41 Arthur st., Pittsburg
Turnbull, Thos., 311 Western av., Allegheny [1895]
Van Kirk, T. R., McKeesport [1870]
Vincent, C. Jane, 71 Arch st., Allegheny
Vincent, J. R., 220 Collins av., Pittsburg
Voigt, C. H., 55 Monterey st., Allegheny
Wade, F. H., 230 North av., Allegheny
Walker, R. L., Mansfield Valley
Walker, R. L., Jr., Carnegie [1896]
Walker, W. E., McKeesport
Wallace, W. C., Ingram
Ward, M. R., 6147 Station st., Pittsburg
Wasdin, Eugene, Mercy Hospital, Pittsburg
Werder, X. O., 521 Penn av., Pittsburg [1892]
Wessel, J. L., 65 Madison av., Allegheny
Whitten, J. A., 5th av., Pittsburg

Wible, E. E., Munhall
Wiggins, S. L., McKeesport
Willets, Jos. E., 820 Penn av., Pittsburg [1894]
Williams, J. A., McKee's Rocks
Williams, Roger, 6000 Penn av., Pittsburg [1890]
Williamson, J. H., 9 Stockton av., Allegheny
Wilson, J. E., 23 Shiloh st., Pittsburg
Wishart, C. A., 820 Penn av., Pittsburg
Wishart, J. W., 517 Shady av., Pittsburg
Woodman, W. M., McKeesport
Wright, J. H., California av., Allegheny
Zeller, A. T., McKeesport

ARMSTRONG COUNTY.

Officers.

President,	J. B. F. Wyant,	Templeton.
Vice-President,	J. M. Patton,	Kelley's Station.
Recording Secretary,	Fred. C. Monks,	Kittanning.
Treasurer,	A. P. N. Painter,	"

Stated Meetings at Kittanning, second Tuesday in March, June, September and December.

Members.

Allison, T. H., Kittanning [1880]
Allison, T. M., Kittanning [1876]
Armstrong, J. A., Leechburg [1891]
Cunningham, J. G., Kittanning ['81]
Deemer, J. T., Manorville
Henry, T. J., Apollo [1891]
Jessop, Chas. J., Kittanning [1890]
Jessop, S. A. S., Kittanning [1882]
King, J. H., Worthington
Maxwell, J. K., Worthington [1880]
McBryar, Wm., Apollo [1890]
McBryar, W. L., Apollo
McKee, J. C., Slate Lick
McKee, T. N., Kittanning
Monks, F. C., Kittanning [1892]
Painter, A. P. N., Kittanning
Patton, J. M., Kelley's Station
Stockdill, J. F., Rural Village
Stone, H. B., Kittanning
Wyant, J. B. F., Templeton [1896]

BEAVER COUNTY.

Officers.

President,	U. S. Strouss,	Beaver.
Vice-Presidents,	G. Cristler,	Darlington.
	G. J. Boyd,	Ellwood.
Secretary,	J. B. Armstrong,	Beaver.
Treasurer,	T. P. Simpson,	Beaver Falls.

Stated Meetings at the 7th Avenue Hotel, Beaver Falls, the second Thursday of each month, at 2 p. m.

Members.

Allen, J. J., Monaca
Ague, John B., Beaver Falls
Armstrong, J. Burt, Beaver
Boal, G. Fay, Freedom
Boal, G. Y., Baden [1876]
Boyd, G. J., Ellwood
Coffin, J. W., Beaver Falls
Cristler, Geo., Darlington
Davis, J. M., Darlington
Davis, M. S., Georgetown

Gale, C. T., New Brighton
Grim, W. S., Beaver Falls [1890]
Kring, S. S., Beaver Falls [1890]
Langfitt, W. J., Allegheny City (Allegheny County) [1864]
Louthan, J. S., Beaver Falls
Marquis, D. S., Rochester [1863]
McCarter, J. D., Beaver Falls [1884]
McConnell, H. S., New Brighton ['78]
Moon, A. S., Beaver Falls
Neeley, E. E., Allegheny City
Nye, H., Enon Valley
Rose, David, Baden
Shallenberger, H. M., Rochester
Simpson, T. P., Beaver Falls [1888]
Simpson, W. C., New Brighton ['95]
Strouss, U. S., Beaver
Sturgeon, S. D., New Galilee
Watterson, R. W., Darlington
White, J. K., New Brighton [1884]
Wickham, J. J., Rochester
Wilson, J. H., Beaver [1894]

BEDFORD COUNTY.

Officers.

President,	W. P. S. Henry,	Everett.
Vice-Presidents,	S. H. Gump,	Bedford.
	A. J. Bowser,	"
Secretary,	W. F. Enfield,	"
Corresponding Secretary,	J. G. Hanks,	Rays Hill.
Treasurer,	T. W. Moore,	Everett.

Stated Meetings the first Tuesday of January, March, May, July, September and November.

Members.

Bowser, A. J., Schellsburg
Brenneman, M. B., Saxton
Bruner, H. B., Osterburg
Calhoun, C. P., Bedford
Enfield, A., Bedford
Enfield, W. F., Bedford
Evans, A. H., Hopewell
Ferry, F. F., New Paris
Gump, S. H., Bedford
Hanks, J. G., Rays Hill
Henry, W. P. S., Everett
Hill, H. H., Everett
Hughes, W. T., Bedford
Moore, T. W., Everett
Smith, J. T., Chaneysville [1896]

BERKS COUNTY.

Officers.

President,	Chas. W. Bachman,	Reading.
Vice-Presidents,	Henry Landis,	"
	Daniel Longaker,	"
Recording Secretary,	Jas. W. Keiser,	"
Corresponding Secretary,	Albert F. East,	"
Treasurer,	A. S. Raudenbush,	"

Stated Meetings at the City Hall, Reading, the second Tuesday of each month, at 3 p. m.

Members.

Bachman, C. W., Reading [1884]
Beaver, D. B. D., Reading [1890]
Becker, John N., Reading [1891]
Bertolette, M. L., Reading [1890]
Beyerle, W. George, Bernville [1891]
Bower, J. L., Reading [1894]
Brobst, Edward J., Bernville
Brobst, J. A., Bernville [1887]
Brooke, J. B., Reading [1877]
Cleaver, Israel, Reading [1873]

Drawbaugh, J. H., Robesonia [1896]
Dundor, A. B., Reading [1872]
Dundor, F. B., West Leesport
East, Albert F., Reading [1896]
Ermentrout, S. C., Reading [1890]
Ewing, W. Brown, Wernersville
Feick, J. F., Reading [1891]
Frankhauser, F.W., Reading [1888]
Frankhauser, J. W., Temple
Frantz, E. H., Reading [1891]
Hengst, M. A., Reading
Hepler, H. A., Reading [1892]
Hertzog, W. F., Oley [1894]
Hetrich, Geo., Birdsboro
High, W. E. G., Esterly
Hill, Samuel S.,Wernersville [1896]
Hoffman, J. Y., Reading [1890]
Hunsberger, H. S., Maiden Creek
Kehl, G. W., Reading [1896]
Keiser, James W., Reading [1891]
Kendig, Elizabeth, Reading [1892]
Kupp, W. B., Gibralter [1887]
Kurtz, Clarence M., Reading [1892]
Kurtz, J. Ellis, Reading [1881]
Kurtz, S. L., Reading [1891]
Landis, H., Reading [1891]
Longaker, Daniel, Reading [1894]
Loose, C. G., Reading [1890]
Madeira, J. D., Reading [1896]
Mathews, James M., Reading
Mayer, J. D., Wernersville
Muhlenburg, W. F., Reading [1875]
Plank, D. H., Morganstown
Potteiger, G. F., Hamburg [1894]
Potteiger, J. B., Hamburg
Raudenbush, A. S., Reading [1874]
Reeser, H. S., Reading
Rentschler, H. F., Reading
Rhoads, M. A., Reading [1888]
Rhoads, T. L., Boyertown
Riggs, Walter A., Reading
Schaeffer, E. D., Reading [1894]
Schlemm, H. E., Reading [1891]
Schmehl, S. T., Reading [1894]
Seaman, J. K., Reading [1896]
Shearer, J. Y., Sinking Springs ['68]
Shenk, G. R., Reading
Stamm, A. A., Mohnsville [1891]
Sterley, J. B., Reading [1884]
Stryker, H. D., Reading [1896]
Taylor, S. B., Reading
Trexler, J. S., Kutztown
Weidman,W. Murray, Reading ['68]
Wenger, M. L., Reading [1891]
Wenrich, G. W., Wernersville
Wickert, W. W., Reading
Wildberger, Arthur, Reading
Wiley, F. H., Centreport

BLAIR COUNTY.

Officers.

President,	J. H. Hogue,	Altoona.
Vice-Presidents,	D. S. Hays,	Hollidaysburg.
	J. E. Smith,	Altoona.
Secretary,	C. H. Closson,	"
Treasurer,	W. S. Ross,	"

Stated Meetings in Library Hall, Altoona, the third Thursday of January, April and October. In July, a summer meeting is held at a place appointed.

Members.

Arney, G. F., Altoona
Appleby, J. D. Tyrone
Arnold, J. F., Williamsburg [1893]
Blose, J. U., Altoona [1892]
Brotherlin, H. Hale, Hollidaysburg
Brubaker, J. L., Juniata (Perry Co.)
Burket, G. W., Tyrone
Christy, R.W., Hollidaysburg [1880]
Clossen, C. H., Altoona [1879]
Couch, G. A., Altoona
Ernest, J. F., Williamsburg
Fay, John, Altoona [1870]
Feltwell, A. L., Altoona [1895]
Feltwell, John, Altoona
Findley, Wm. M., Altoona [1870]
Finley, Robert P., Altoona

Gemmill, J. M., Jr., Tyrone [1874]
Glover, S. P., Altoona
Hays, D. S., Hollidaysburg [1892]
Hogue, J. H., Altoona [1895]
Ickes, G. A., Altoona
Ike, E. M., Altoona
Irwin, Crawford, Hollidaysburg ['67]
Irwin, Robt. C., Hollidaysburg ['83]
Leathermann, D. J., Williamsburg
Levengood, B. B., Bellwood
Lindsey, J. W., Claysburg
Long, Charles, Altoona [1894]
Lowrie, W. L. Tyrone
Maglaughlin, W. K., Altoona
McCarthy, S. L., Altoona
Miller, C. C., Altoona
Miller, E. S., Altoona [1880]
Miller, P. T., Newry
Morrow, W. H., Bellwood
Musser, W. F., Williamsburg
Roller, W. C., Hollidaysburg
Ross, John D., Williamsburg [1863]
Ross, W. S., Altoona [1883]
Rowe, J. W., Altoona
Sheedy, J. M., Altoona
Smith, G. W., Hollidaysburg [1866]
Smith, H. R., Altoona
Smith, James E., Altoona [1892]
Stayer, A. S., Altoona

BRADFORD COUNTY.

Officers.

President,	D. W. Sturdevant,	Laceyville, (Wyoming Co.)
Vice-Presidents,	E. D. Payne,	Towanda.
	G. C. Holcomb,	Ulster.
Secretary,	S. M. Woodburn,	Towanda.
Treasurer,	F. G. Newton	"

Stated Meetings at Towanda (or other place selected) the second Tuesday of each month.

Members.

Badger, S. W., Athens [1893]
Barker, P. N., Troy [1888]
Blair, A. S., Ulster
Carmody, Robert, Sayre
Chaffee, F., Towanda [1891]
Chamberlain, J.W., Wyalusing ['93]
Clagett, W. L., Standing Stone ['82]
Dennison, L. B., Sayre
Durga, G. W., LeRaysville
Everett, E. A., Burlington
Everett, J. E., Franklindale
Frisbie, H. J., Sugar Run
Griffiths, W. Patton, Towanda
Harshbarger, W. F., New Albany [1891]
Holcomb, G. C., Ulster
Holcomb, Jno. T., Athens
Homet, Volney, Wyalusing [1870]
Hunter, M. C., Sayre
Johnson, T. B., Towanda [1885]
Kenyon, Chas. L., Monroeton
Ladd, C. K., Towanda
Newton, F. G., Towanda [1884]
Park, E. R., Warren Centre
Payne, E. D., Towanda [1885]
Pratt, N. M., Dushore (Sullivan Co.)
Randall, Wm. F., Forksville (Sullivan Co.)
Reed, Chas., Wysox [1886]
Schoonmaker, I. R., Sayre [1893]
Stephens, F. M., Sayre
Stephens, C. L., Athens [1888]
Sturdevant, D. W., Laceyville, Wyoming Co. [1890]
Terry, G. H. B., Wyalusing
Thompson, F. A., Durell [1890]
Tracy, E. G., Troy
Watkins, F. A., Mehoopany (Wyoming Co.)
Woodburn, S. M., Towanda [1884]

BUCKS COUNTY.

Officers.

President,	G. M. Grim,	Ottsville.
Vice-Presidents,	Howard Pursell,	Bristol.
	N. S. Nonemaker,	Bedminster.
Secretary,	A. F. Myers,	Blooming Glen.
Treasurer,	Frank Swartzlander,	Doylestown.

Stated Meetings at Doylestown the first Wednesday of May and October; at Bristol the first Wednesday in August; at Quakertown, first Wednesday in February.

Members.

Cawley, J. I., Springtown [1891]
Cooper, A. M., Point Pleasant ['81]
Cooper, Wm. R., Point Pleasant [1888]
Crewitt, John A., Newton
Dingee, Chas. R., Newportville
Doughty, Wm. E., Hartsville [1881]
Erdman, M. S., Quakertown
Erdman, W. S., Richlandtown
Fell, John A., Doylestown
Foulke, R. C., New Hope
Fretz, J. H., Stockton, N. J. [1888]
Fretz, O. H., Quakertown [1888]
Grim, G. M., Ottsville [1894]
Groff, Jas. E., Doylestown [1894]
Groom, A. R., Bristol
Groom, Evan J., Bristol [1894]
Hancock, E. C., Yardley
Hellyer, H. A., Penn's Park
Johnson, J. S., Reiglersville
Lovett, Henry, Langhorne
Martin, Wm., Bristol [1895]
Myers, A. F., Blooming Glen [1892]
Nonemaker, N. S., Bedminster
Osborne, R. H. G., Morrisville
Ott, J. J., Pleasant Valley
Parker, Geo. A., Southampton
Pownall, E. E., Richboro
Pursell, Howard, Bristol
Reed, C. H., Tullytown
Richards, J. N., Fallsington [1883]
Scott, J. E., New Hope
Sickel, Henry L., Morrisville
Smith, C. B., Newtown
Swartzlander, F., Doylestown [1883]
Thomas, Joseph, Quakertown
Walter, Jos. B., Solebury [1874]
Walton, Levi S., Jenkintown (Montgomery Co.)
Wilson, A. S., Bristol [1895]
Winder, Wm. G., Torresdale

BUTLER COUNTY.

Officers.

President,	Geo. D. Thomas,	Chicora.
Vice-President,	J. W. F. Moore,	Butler.
Secretary,	Jos. Forrester,	"
Treasurer,	N. M. Hoover,	"

Stated Meetings in Reiber Building, Butler, the second Tuesday in January, and the third Tuesday in March, April, July, September and November.

Members.

Barber, W. M., West Sunbury
Barr, J. C., Mars [1890]
Bell, S. B., Butler [1876]
Bippus, S. M., Butler [1890]
Byers, Jno. E., Butler [1894]
Cort, J. C., Evans City [1891]

Christie, J. L., Connoquennessing [1880]
Cunningham, A. V., Zelienople
Davis, A. C., Sarversville [1896]
Fithian, E. J., Harmony
Forrester, Jos., Butler [1892]
Graham, Samuel, Butler [1875]
Headland, M. E., Butler
Hockenberry, H. D., West Sunbury [1892]
Holman, A., McCandless [1896]
Hoover, N. M., Butler [1891]
McClymonds, W. H., Renfrew
McKee, T. K., Chicora
Mershon, E. B., Saxonburg
Moore, J. W. F., Butler [1896]
Neyman, A. M., Butler [1867]
Peters, G. J., Butler
Pillow, R. H., Butler [1878]
Showalter, J. B., Chicora [1888]
Shryhock, L. May, Butler
Shultis, Jos. J., Butler
Stepp, L. H., Cooperstown
Sterret, S. O., Valencia [1891]
Thomas, G. D., Chicora
Thomas, V. F., Baldwin [1895]
Thompson, E. C., West Liberty
Thompson, J. B., Prospect
Towler, S. S., Marienville (Forest Co.) [1893]
Wilson, H. M., Evans City

CAMBRIA COUNTY.

Officers.

President,	L. H. Mayer,	Johnstown.
Vice-President,	F. B. Statler,	"
Secretary,	Chas. E. Hannan,	"
Treasurer,	F. Schill,	"

Stated Meetings the second Tuesday in each month in the Wolfe Block, Johnstown.

Members.

Armitage, T. H., Lilly
Devereaux, Robt., Summit [1884]
Ferguson, F. V., Gallitzin
Fichtner, A. S., Johnstown
Glass, George, Portage
Glass, J. H., South Fork
Hamer, J. W., Johnstown
Hannan, Chas. E., Johnstown
Jones, F. C,, Ebensburg [1890]
Lowman, W. B., Johnstown [1883]
Marbourg, Esther L. W., Johnstown [1884]
Matthews, W. E., Johnstown
Mayer, L. H., Johnstown [1896]
McDonald, G. F., Gallitzin
Miller, E. L., Johnstown [1895]
Porch, E. B., Johnstown
Pringle, W. N., Johnstown
Schill, F., Johnstown [1886]
Sheridan, C., Johnstown
Sheridan, John C., Johnstown ['83]
Somerville, H., Chest Springs ['96]
Statler, F. B., Johnstown [1896]
Swan, S. M., Johnstown [1887]
Tomb, B. F., Morrellsville
Tomb, H. F., Johnstown [1892]
Troxell, T. S., Gallitzin [1890]
Wagoner, G. W., Johnstown [1890]
Wakefield, A. N., Johnstown [1887]
Walters, W. W., Johnstown [1890]
Wilson, A. R., Vintondale [1896]

CARBON COUNTY.

Officers.

President,	C. L. Allen,	Beaver Meadow.
Vice-President,	W. P. Long,	Weatherly.
Secretary and Treasurer,	J. B. Tweedle,	"

Stated Meetings at Mauch Chunk the third Tuesday of April and October.

MEMBERS.

Allen, C. L., Beaver Meadow [1886]
Behler, J. H,, Nesquehoning
Davis, D. K., Lansford
Denlinger, A. J., Lansford [1885]
Derheimer, W. A., Lehighton
Eshelman, E. T., Parryville
Henry, J. K., Mauch Chunk
Hoffman, C. J., Morea (Schuylkill Co.) [1884]
Horn, C. T., Lehighton [1884]
Horn, J. A., Mauch Chunk [1888]
Kasten, W. H., Nesquehoning
Keiser, P. D., Mahoning
Kistler, E. H., Lansford [1892]
Kramer, J. C., Aquachicola [1894]
Kutz, W. L., Weissport [1884]
Latham, P. H., Weatherly
Long, W. P., Weatherly
Longshore, W. R., Hazleton (Luzerne Co.) [1884]
Moyer, L. W. E., Mauch Chunk [1894]
Reber, W. W., Lehighton [1894]
Seiple, W. G. M., Lehighton
Smith, L. H., Hazleton (Luzerne Co.) [1896]
Tweedle, J. B., Weatherly [1882]
Zern, J. G., Lehighton [1891]

CENTRE COUNTY.

OFFICERS.

President,	W. U. Irwin,	Julian.
Vice-Presidents,	W. W. Andrews,	Phillipsburg.
	A. A. Redelin,	Boalsburg.
Secretary,	J. L. Seibert,	Bellefonte.
Treasurer,	Geo. F. Harris,	"

Stated Meetings on second Tuesday of January, March, May, July, September, and November, in Bellefonte, unless changed at a previous regular meeting.

MEMBERS.

Alexander, J. F., Centre Hall
Andrews, W. W., Philipsburg
Christ, Thos. S., State College
Dale, J. Y., Lemont [1877]
Frank, J. S., Milheim
Harris, G. F., Bellefonte [1878]
Hayes, R. G. H., Bellefonte [1886]
Henderson, W. B., Philipsburg
Hibler, August, Bellefonte [1876]
Irwin, W. U., Julian [1894]
Musser, C. S., Aaronsburg [1881]
Redelin, A. A., Boalsburg
Russell, E. A., Fleming [1883]
Seibert, J. L., Bellefonte [1887]
Thompson, James A., Stormstown [1880]
Tobin, Thomas, Bellefonte [1883]
Van Valzah, F. H., Spring Mills [1881]
Woods, George H., Pine Grove Mills [1887]

CHESTER COUNTY.

OFFICERS.

President,	E. H. C. Howell,	West Chester.
Vice-Presidents,	U. G. Gifford,	Avondale.
	Jos. H. Stubbs,	London Grove.
Secretary,	S. H. Scott,	Coatesville.
Treasurer,	W. T. Nelson,	West Chester.

Stated Meetings at Chester County Hospital, West Chester, the second Tuesday of January, April, July and October, at 2 p. m.

Members.

Allen, Edgar, Warwick
Angle, John S., Strafford
Baugh, A. W., Paoli
Carey, Robt. B., Glenloch [1883]
Dunn, T. D., West Chester [1883]
Emack, F. D., Phœnixville [1891]
Evans, J. K,, Malvern [1891]
Ewing, R. B., West Grove [1879]
Fulton, James, New London [1879]
Gifford, U. G., Avondale [1893]
Gillespie, Frank, Oxford
Hoskins, P. C., West Chester [1876]
Howell, Elizabeth H. C.,West Chester [1895]
Kerr, Edw. E., Downington [1892]
Kirk, Lewis, Oxford
Massey, Isaac, West Chester [1882]
Maxwell, J. R., Parkesburg [1894]
McClurg, John R., West Chester
Murphy, Walter A., Parkesburg
Nelson,Wilhelmina T.,West Chester [1894]
Okie, R. B., Berwyn
Parke, Thos. E., East Downington [1888]
Patrick, Elwood,West Chester[1892]
Perdue, Wm. R., Unionville [1881]
Price, Jacob, West Chester [1864]
Reil, Ida V., Coatesville [1893]
Rettew, D. P., Coatesville [1895]
Reynolds, C. S., Kennett Square
Richmond, Thos., Guthrieville
Rothrock, Jos. T., West Chester
Scott, S. H., Coatesville [1892]
Sharpless, W. T., West Chester ['91]
Shoemaker, J. G., Phœnixville ['94]
Stricker, Julius, Marshallton
Stubbs, J. H., London Grove [1879]
Swing, E. V., Coatesville [1884]
Thompson, B., Landenberg
Treichler, C. Galen, Honeybrook [1881]
Webb, Ella S., Oxford [1895]
Weeks, Albert, Phœnixville
Woodward, Charles E.,West Chester [1881]

CLARION COUNTY.

Officers.

President,	J. F. Summerville,	Monroe.
Secretary,	C. S. Mohney,	Callensburg.
Treasurer,	I. J. Wireback,	St. Petersburg.

Stated Meetings at Foxburg in January, at East Brady in April and August, and at West Monterey in October; all on the fourth Tuesday of the month.

Members.

Beatty, G. S., Leeper
Clover, W. M., Knox [1893]
Cresswell, John, New Bethlehem [1875]
Cresswell, Robert, Hawthorn
Donaldson, W. B., St. Petersburg
Fitzgerald, J. M., Clarion [1875]
Hepler, A. J., Fairmount City
Hess, H. N., Clarion [1884]
Hoover, A. M., Parker's Landing (Armstrong Co.)
McComb, A. D., Hawthorn
McGarrah, H. B., Sligo
Mohney, A. M., Rimersburg [1892]
Mohney, C. S., Callensburg
Raisin, L. W., Foxburg
Rimer, J. T., Clarion [1890]
Robinson, R., East Brady
Ross, J. F., Clarion [1870]
Shumaker, P. W., New Bethlehem
Slangenhoupt, W. A., East Brady
Speer, Ross H., Limestone
Spencer, G. W., Sligo
Spencer, R. L., Sligo
Summerville, H. B., Rimersburg
Summerville, J. F., Monroe [1890]
Walker, R. A., West Monterey
Wallace, R. S., East Brady [1892]

Wick, J. Addison, New Bethlehem
Wireback, I. J.. St. Petersburg
Wood, G. H., New Bethlehem
Woods, G. B., Curlsville [1882]

CLEARFIELD COUNTY.

Officers.

President,	J. Currier,	Grampian.
Vice-President,	J. L. Henderson,	Osceola Mills.
Secretary and Treasurer,	S. C. Stewart,	Clearfield.

Stated Meetings at the call of the Secretary at place selected.

Members.

Bennett, A. D., Mahaffey
Bennett, F. G., Mahaffey
Burchfield, J. P., Clearfield
Currier, J., Grampian [1887]
Fugate, S. S., DuBois
Good, D. R., Osceola Mills
Henderson, J. L., Osceola Mills [1886]
Hurd, M. E., La Jose
Hyskill, W. D., Madera
Irwin, F. N., Peale
Jenkins, J. C., Curwensville
Maxwell, J. A., Curwensville
Miller, S. J., Madera
Murray, J. A., Clearfield
Park, W. C., New Millport
Pettigrew, S. H., DuBois
Purnell, H. G., Ansonville
Read, F. B., Osceola Mills [1888]
Spackman, R. V., DuBois
Stewart, S. C., Clearfield [1883]
Sullivan, J. C., DuBois
Todd, Fred., Houtzdale
Waterworth, S. J., Clearfield
Whittier, M. Gard., Clearfield [1892]

CLINTON COUNTY.

Officers.

President,	T. C. Conser,	Salona.
Vice-President,	G. A. Beck,	Flemington.
Secretary,	R. G. Furst,	Lock Haven.
Treasurer,	J. K. Gilmore,	Westport.

Stated Meetings at Lock Haven, in the Y. M. C. A. parlor, the third Wednesday of each month at 2 p. m.

Members.

Armstrong, R., Lock Haven [1892]
Ball, F. P., Lock Haven [1888]
Ballentine, P. L., Renovo [1896]
Beck, G. A., Flemington
Bright, J. W., Rebersburg
Conser, T. C., Salona [1893]
Corson, J. M., Chatham's Run ['96]
Davis, R. O., North Bend
Dumm, J. M., Mackeyville [1891]
Fullmer, C. L., Renovo [1893]
Furst, R. G., Lock Haven [1896]
Gilmore, J. K., Westport
Goodman, W. R., Loganton
Hayes, J. H., Lock Haven
Holloway, L. M., Salona
Houtz, J. A., Loganton
Huff, S. M., Lamar [1895]
Huston, J. H., Clintondale
McCloskey, J. B., Mill Hall
Mothersbaugh, H. H., Beech Creek
Musser, C. S., Aaronsburg
Reese, J., Renovo

Richards, H. P., Cataract
Roach, T. E., Renovo
Rosser, O. H., Renovo
Shoemaker, W. J., Lock Haven [1888]
Tibbens, J. E., Beech Creek [1893]
Vandersloot, F. W., Lock Haven
Watson, R. B., Lock Haven [1892]
Weymouth, W. C., Renovo

COLUMBIA COUNTY.

Officers.

President,	J. W. Bruner,	Bloomsburg.
Vice-Presidents,	A. Shuman,	Mainville.
	H. S. Christian,	Millville.
Secretary and Treasurer,	W. M. Reber,	Bloomsburg.

Stated Meetings at Bloomsburg, third Tuesday in February, June and October; at Catawissa, third Tuesday in April, August and December.

Members.

Arment, S. B., Bloomsburg
Brown, J. J., Bloomsburg [1893]
Bruner, J. W., Bloomsburg
Christian, H. S., Millville
Folmer, J. R., Rohrsburg [1892]
Hower, H. V., Mifflinville [1892]
Hill, Frank P., Berwick
Kline, L. B., Catawissa [1875]
MacRea, A. B., Berwick
McKelvy, J. B., Bloomsburg
McReynolds, H. W., Bloomsburg
Montgomery, Jas. R., Buckhorn [1886]
Reber, W. M., Bloomsburg [1876]
Redeker, F. W., Espy [1881]
Robins, W. B., Catawissa
Sharpless, B. F., Catawissa [1892]
Shuman, A., Mainville
Shuman, J. E., Jerseytown
Smith, E. A., Espy
Steck, C. T., Berwick [1896]
Vastine, Geo. H., Catawissa [1895]
Vastine, J. H., Catawissa [1875]
Willitts, I. W., Bloomsburg
Wintersteen, J. C., Numidia [1893]
Zimmermann, Pius, Numidia ['92]

CRAWFORD COUNTY.

Officers.

President,	C. C. Hill,	Meadville.
Vice-Presidents,	J. K. Roberts,	Cochrantown.
	S. F. Hazen,	Hartstown.
Secretary and Treasurer,	C. C. Laffer,	Meadville.

Stated Meetings in Meadville the first Tuesday in January, April, July and October.

Members.

Calvin, R. A., Harmonsburg
Carpenter, M. C., Blooming Valley
Carroll, C. C., Meadville
Cotton, J. C., Meadville [1882]
Daubenspeck, C. F., Cochranton
Dewey, E. H., Meadville [1882]
Doane, L. L., Meadville
Gray, M. D., Cambridgeboro
Greenfield, Robert N., Penn Line
Hamaker, W. D., Meadville [1890]
Hazen, S. F., Hartstown
Hill, C. C., Meadville
Johnson, E. B., Cambridgeboro
Johnson, S. C., Blooming Valley

Laffer, C. C., Meadville
Little, W. W., Mosiertown
Mosier, J. R., Hayfield
Roberts, J. K., Cochranton [1890]
Rouche, W. H., Guy's Mills
Young, W. N., Cambridge

CUMBERLAND COUNTY.

Officers.

President,	J. W. Bowman,	Wormleysburg.
Vice-President,	Wm. E. Swiler,	Mechanicsburg.
Secretary,	J. C. Davis,	Carlisle.
Corresponding Secretary,	R. L. Sibbet,	"
Treasurer,	W. H. Longsdorf	"

Stated Meetings at Carlisle the second Tuesday of January, April, July and October.

Members.

Bowman, J. W., Wormleysburg [1888]
Claudy, J. C., Newville [1869]
Davis, J. C., Carlisle [1892]
Dougherty, M. M., Mechanicsburg [1896]
Hummel, C. C., Mechanicsburg ['81]
Irwin, Geo. G., Mt. Holly Springs
Koons, P. R., Mechanicsburg [1891]
Koser, J. J., Shippensburg [1886]
Krise, C. W., Carlisle [1877]
Lefevre, C. K., Boiling Springs
Linebaugh, H. M., New Cumberland
Longsdorff, H. H., Dickinson [1892]
Longsdorff, Hildegarde H., Carlisle [1893]
Longsdorff, W. H., Carlisle [1871]
McDonald, David L., Shiremanstown [1896]
Ritchey, G. F., New Kingston [1896]
Short, R. N., Mechanicsburg [1896]
Sibbet, R. Lowry, Carlisle [1870]
Spangler, H. A., Carlisle
Stewart, Thos., Carlisle [1892]
Stewart, Wm. G., Newville
Swiler, Wm. E., Mechanicsburg [1896]
Van Camp, J. E., Plainfield

DAUPHIN COUNTY.

Officers.

President,	H. B. Walter,	Harrisburg.
Vice-Presidents,	D. S. Funk,	"
	J. L. Seitz,	"
Secretary,	Paul A. Hartman,	"
Treasurer,	E. H. Coover,	"

Stated Meetings third Tuesday in January, April, August and November for business, and first Monday in each month, except July, August and September, at the Academy of Medicine, Harrisburg.

Members.

Beane, W. H., Middletown [1879]
Bill, Geo. C., Harrisburg
Bishop, W. T., Harrisburg [1881]
Blair, Thos., Harrisburg [1896]
Bowman, J. F., Millersburg [1878]
Coble, A. C., Dauphin
Coover, Eli H., Harrisburg [1876]
Coover, F. W., Harrisburg [1883]

Coover, H. Ross, Harrisburg [1892]
Culp, J. F., Steelton [1894]
DeVinney, J. C., Harrisburg [1896]
Duff, W. L., Harrisburg
Egle, W. H., Harrisburg [1896]
Ellenberger, J. W., Harrisburg ['81]
Fritchie, J. A., Harrisburg [1881]
Funk, D. S., Harrisburg [1894]
Garver, Jane K., Harrisburg [1883]
Gerhard, J. Z., Harrisburg [1873]
Graber, L. K., Harrisburg
Hamilton, Hugh, Harrisburg [1874]
Hartman, Paul A., Harrisburg ['75]
Hassler, S. F., Harrisburg [1896]
Hutton, J. C., Harrisburg [1896]
James, E. H., Harrisburg [1894]
Jauss, C. E., Harrisburg [1896]
Jones, W. H., Harrisburg [1894]
Kunkel, Geo. B., Harrisburg
Keene, C. E. L., Harrisburg [1896]
McAllister, J. B., Harrisburg [1894]
McGowan, H., Harrisburg [1876]
Meals, E. S., Harrisburg [1896]
Middleton, W. J., Steelton [1892]
Mish, Geo. F., Middletown [1896]
Nead, D. W., Harrisburg [1895]
Orth, H. L., Harrisburg [1868]
Park, J. W., Harrisburg [1882]
Pease, C. E., Middletown [1896]
Putt, M. O., Oberlin [1892]
Rahter, C. A., Harrisburg [1868]
Ritchy, M. M., Harrisburg
Roop, J. W., Harrisburg [1892]
Ruhl, J. H., Middletown [1896]
Saul, C. H., Steelton [1896]
Schaffner, D. M., Steelton [1896]
Seibert, W. H., Steelton [1877]
Seitz, J. L., Harrisburg [1894]
Stevens, J. C., Harrisburg [1895]
Stites, G. W., Williamstown
Ulrich, Marion, Millersburg
Walter, H. B., Harrisburg [1896]
Willetts, T. L., Harrisburg
Wolford, M. L., Harrisburg [1896]

DELAWARE COUNTY.

Officers.

President,	W. T. W. Dickeson,	Media.
Vice-President,	D. M. McMasters,	Ridley Park.
Secretary,	Linnæus Fussell,	Media.
Treasurer,	D. W. Jefferis,	Chester.

Stated Meetings at places selected, the Friday on or before each full moon.

Members.

Baker, Frances N., Media [1881]
Bartleson, S. P., Clifton Heights [1879]
Brown, Ellen E., Chester [1893]
Cross, Geo. D., Chester [1892]
Crothers, S. R., Thurlow [1891]
Dickeson, Morton P., Glen Riddle [1892]
Dickeson, W. T. W., Media [1863]
Easby, Alice Rogers, Media
Evans, Frank J., Chester
Evans, Fred. H., Chester
Evans, W. K., Chester [1894]
Forwood, Francis F., Chester
Fronfield, J. Harvey, Media [1885]
Fussell, Linnæus, Media [1875]
Given, S. A. Mercer, Clifton Heights [1888]
Green, Mary V. M., Swarthmore
Hammond, Wm., Llanwellyn
Harvey, E. M., Media
Hornor, J. H., Concordville
Jefferis, D. W., Chester [1876]
Johnston, Frank E., Moore's
Lainé, D. T., Media [1892]
Long, F, F., Chester [1892]
Maison, Robert S., Chester [1894]
McMasters, D. M., Ridley Park ['94]
Memminger, W. M., Chester
Painter, Wm. P., Darby
Phillips, J. Willoughby, Clifton Heights [1881]
Pyle, Jerome L., Glen Mills
Price, Hannah J., Chester [1884]
Risley, S. D., Media [1878]
Stellwagen, Thomas C., Media [1883]
Trimble, Samuel, Lima
Ulrich, W. B., Chester [1870]
Webb, Walter, Sharon Hill
White, Frank, Elwyn

ELK COUNTY.

Officers.

President,	W. L. Williams,	Ridgeway.
Vice-President,	H. H. Smith,	Johnsonburg.
Secretary,	A. Mulhaupt,	St. Mary's.
Treasurer,	Eben J. Russ,	"

Stated Meetings the second Thursday of every other month, commencing in January, at Ridgway, St. Mary's, Emporium and Johnsonburg, in rotation.

Members.

Bardwell, E. O., Emporium (Cameron Co.) [1882]
Bevier, A. B., Ridgway [1892]
Burt, J. E., Glen Hazel
Colcord, Amos W., Instanter
Corbett, V. K., Driftwood (Cameron)
Earley, F. G., Ridgway
Hall, Geo. B., Cartwright
Hartman, W. B., St. Mary's [1882]
Heilman, R. P., Emporium (Cameron Co.) [1886]
Mulhaupt, A., St. Mary's [1894]
Palmer, W. R., Johnsonburg [1892]
Russ, Eben J., St. Mary's [1884]
Smith, H. H., Johnsonburg
Smith, S. S., Emporium (Cameron)
Ulsh, W. H., Driftwood (Cameron)
Wells, J. H., Wilcox [1888]
Williams, W. L., Ridgway [1882]
Wilson, C. G., St. Mary's [1882]

ERIE COUNTY.

Officers.

President,	David N. Dennis,	Erie.
Vice-President,	O. Logan,	Girard.
Secretary,	Ira J. Dunn,	Erie.
Treasurer,	Arthur C. Wheeler,	"

Stated Meetings on the first Tuesday of each month in the Downing Building, 9th and State streets, Erie.

Members.

Allen, C. L., Erie
Baker, L. B., Erie
Barkey, Peter, Erie
Brandes, Chas., Erie
Chapin, S. F., Soldiers Home, Erie
Delaney, J. H., Erie
Dennis, D. N., Erie
Douville, J. C., North East
Duff, R. H., Girard
Dunn, Ira J., Erie [1896]
Foringer, H. H., Erie
Gillespie, M. S., Edinboro
Hall, F. L., Erie
Hauptman, J. H., Erie
Humphrey, W. J., Union City
Hunter, W. R., Erie
Logan, O., Girard
Montgomery, J. H., Erie
Moore, M. M., Wesleyville
Potter, E. B., Erie
Purcell, Thos., Erie [1896]
Putnam, B. H., North East
Reed, G. A., Erie
Rockwell, L. D., Union City
Sherwood, A. C., Union City
Silliman, Jas. E., Erie
Smith, M. C., Erie
Strickland, D. H., Erie
Walsh, F. A., Erie
Wheeler, Arthur, C., Erie
Woods, Adella B., Erie
Wright, J. S,, Erie
Wright, J. W., Erie [1896]

FAYETTE COUNTY.

Officers.

President,	H. B. Guiher,	Smithfield.
Vice-President,	John F. Detwiler,	Uniontown.
Secretary and Treasurer,	Levi S. Gaddis,	"
Assistant Secretary,	John D. Sturgeon,	"

Stated Meetings first Tuesday in January, April, July and October, in Directors' Office, Public Schools, Uniontown.

Members.

Atkinson, Henry F., Connellsville
Batton, John A., Uniontown
Bell, Harry J., Dawson [1895]
Buttermore, Smith, Connellsville
Clark, R. W., Uniontown [1881]
Cochran, James L., Star Junction
Coll, Hugh J., Connellsville
Davidson, J. H., Perryopolis
Detwiler, John F., Uniontown
Dillinger, G. A., Perryopolis
Eastman, Thos. N., Uniontown
Ewing, Jas. B., Uniontown [1878]
Gaddis, Jacob E., Connellsville
Gaddis, Levi S., Uniontown [1878]
Gallagher, Geo. W., Connellsville
Gordon, J. W., Fayette City
Guiher, H. B., Smithfield [1895]
Hackney, J. S., Uniontown [1890]
Hazlett, I. C., Uniontown [1885]
Hazlett, J. D., Vanderbilt [1884]
Holbert, J. F., Fairchance
Hopwood, W. H., Upper Middletown
Jackson, Isaac, Brownsville [1890]
Jackson, John D., Connellsville
LaClair, Chas. H., Uniontown
McClenathen, J.C., Connellsville['90]
McCormick, L. P., Connellsville
McDaniel, E. L., Dunbar
McKay, O. P., Fayette City
Miller, Colley J., Merrittstown
Moore, W. D., Juniataville
Mullen, John, Dunbar
Neff, Geo. W., Masontown
Osborne, W. W., Upper Middletown [1895]
Parshall, J. W., Uniontown
Reichard, C. C., Brownsville [1878]
Shoemaker, Benj., Brownsville
Shoemaker, Fred., Vanderbilt
Shupe, M. B., Connellsville
Smith, Chas. H., Uniontown
Smith, Peter F., Uniontown [1890]
Sturgeon, J. D., Uniontown
Sturgeon, W. H., Uniontown [1876]
Torrence, D. R., New Haven [1888]
Van Voorhis, John S., Bellevernon [1869]
Warne, W. W., Dunbar
White, Thomas H., Connellsville [1887]
Worrell, J. W., Brownsville [1882]

FRANKLIN COUNTY.

Officers.

President,	J. J. Coffman,	Scotland.
Vice-Presidents,	E. A. Hudson,	Mercersburg.
	A. B. Grove,	New Franklin.
Secretary,	H. C. Devilbiss,	Chambersburg.
Treasurer,	D. Maclay,	"
Corresponding Secretary,	H. X. Bonebreak,	"

Stated Meeting in Medical Library, Chambersburg, third Tuesday in each month.

Members.

Alexander, R. M., Fannettsburg
Bishop, S. S., Carlisle [1888]
Bonebreak, H. X., Chambersburg [1896]

Bouse, John A., Chambersburg [1892]
Brosius, W. H., Mt. Alto
Chritzman, H. B., Greencastle
Chritzman, H. G., Welsh Run [1879]
Coffman, J. J., Scotland [1892]
Cook, P. McC., Websters Mills
Dalby, A. D., McConnellsburg
Devilbiss, H. C., Chambersburg ['95]
Devor, John H., Fort Loudon [1893]
Frantz, Jos., Jr., Waynesboro'
Fritz, H. M., Quincy [1893]
Gelwicks, J. M., Strasburg
Greenawalt, Jno. C., Chambersburg
Grove, A. B., New Franklin [1896]
Hartzell, C. A., Fayetteville
Hudson, E. A., Mercersburg [1894]
Hull, Geo. S., Chambersburg [1884]
Jones, E. G., Dry Run
Kauffman, L. M., Kauffman [1896]
Lantz, W. O., Lemaster [1887]
Leberknight, A. K., Orrstown
Maclay, David, Chambersburg [1893]
McLanahan, J., Chambersburg
McLaughlin, C. M., Greencastle
Miley, H. M., Chambersburg
Montgomery, John, Chambersburg [1871]
Montgomery, P. B., Chambersburg [1892]
Noble, W. P., Upton [1879]
Palmer, C. F., Chambersburg
Ramsey, R. W., Chambersburg ['77]
Ripple, J. M., Waynesboro'
Seibert, J. P., Chambersburg
Skinner, W. Frank, St. Thomas [1895]
Snively, I. N., Waynesboro' [1873]
Snively, J. L., Shady Grove
Strickler, A. H., Waynesboro' [1875]
Strock, Edw. G., St. Thomas
Suesserott, L. F., Chambersburg
Trout, W. F., McConnellsburg
Unger, D. F., Mercersburg [1881]
Varden, R. P., Mercersburg
Walker, T. H., Dry Run
Weagley, T. H., Marion [1892]
West, C. B., Strasburg
White, Thos. B., Strasburg

GREENE COUNTY.

Officers.

President,	Jane Teagarden,	Waynesburg.
Vice-President,	E. W. Laidley,	Carmichaels.
Recording Secretary,	J. T. Iams,	Waynesburg.
Assistant Secretary,	J. T. Ullom,	"
Corresponding Secretary,	T. H. Sharpnack,	Jefferson.
Treasurer,	T. B. Hill.	Waynesburg.

Stated Meetings in Waynesburg the fourth Tuesday of October, April, June and August.

Members.

Brock, R. E., Waynesburg [1890]
Hill, T. B., Waynesburg [1890]
Iams, J. T., Waynesburg [1886]
Laidley, E. W., Carmichaels
Milliken, T. N., Rogersville [1893]
Murray, J. M., Windridge [1896]
Sharpnack, T. H., Jefferson [1890]
Teagarden, Jane, Waynesburg ['87]
Throckmorton, W. S. Nineveh ['95]
Ullom, J. T., Waynesburg [1887]

HUNTINGDON COUNTY.

Officers.

President,	C. A. McCauly,	Petersburg.
Vice-President,	H. C. Froutz,	Huntingdon.
Secretary,	A. B. Brumbaugh,	Huntingdon.
Treasurer,	Geo. G. Harman,	"

Stated Meeting in Huntingdon, second Tuesday of January, April, July and October.

MEMBERS.

Banks, C. W., Huntingdon [1896]
Bernhardt, Dallas, Dublin Mills (Fulton Co.) [1888]
Bigelow, L. I., McConnellstown
Boggs, W. H., Huntingdon
Borst, Geo. C., Mount Union [1888]
Brumbaugh, A. B., Huntingdon ['73]
Campbell, Charles, Petersburg ['95]
Evans, M. R., Huntingdon [1896]
Frontz, H. C., Huntingdon [1896]
Harman, Geo. G., Huntingdon [1883]
Harnish, Chas. A., Alexandria ['93]
James, Geo. W. C., Orbisonia
Johnson, Wm. H., Robertsdale ['86]
McCarthy, A. R., Mount Union ['92]
McCauley, C. A., Petersburg [1895]
Miller, D. P., Huntingdon [1873]
Myers, R., Huntingdon
Snyder, S. G. M., Birmingham
Stever, J. C., Three Springs [1887]
Taylor, Z. S., Orbisonia
Tobin, Thomas, Warrior's Mark
Whiteside, Sarah, Cassville [1896]

INDIANA COUNTY.

OFFICERS.

President,	J. M. St. Clair,	Indiana.
Vice-President,	Wm. Hosack,	"
Secretary,	I. P. Klingensmith,	Blairsville.
Treasurer,	M. M. Davis,	Indiana.

Stated Meeting in Indiana, second Tuesday of January, May and September.

MEMBERS.

Ansley, Wm. B. Saltsburg [1888]
Bryson, Jas. A., Creekside [1893]
Cass, John T., West Lebanon
Clagett, L. S., Blairsville [1878]
Davis, M. M., Indiana
Earhart, Elias B., Saltsburg
Hosack, Wm., Indiana [1893]
Klingensmith, I. P., Blairsville ['76]
McMillen, John C., Dixonville
McMullen, James, Brush Valley ['62]
Miller, W. R., Blairsville
Onstott, Elmer, Saltsburg
Rutledge, A. T., Blairsville [1892]
Shields, Wm. L., Kent [1896]
St. Clair, John M., Indiana
Van Tries, Thos. C., Blairsville

JEFFERSON COUNTY.

OFFICERS.

President,	S. S. Hamilton,	Punxsutawney.
Vice-President,	S. M. Free,	DuBois.
Secretary and Treasurer,	A. F. Balmer,	Brookville.

Stated Meeting in DuBois fourth Friday of each month.

MEMBERS.

Aldrich, C. S., Anita
Alexander, W. B., Reynoldsville
Balmer, A. F., Brookville [1879]
Beyer, Wm. F., Punxsutawney ['91]
Blaisdell, W. S., Horatio
Booher, J. C., Falls Creek
Bowser, A. H., Reynoldsville [1896]
Brewer, J. J., Clarington (Forest Co.)
Brown, J. K. Summerville [1890]
Campbell, W. S., Rochester Mills [1893]
Cochran, J. C., Big Run [1892]
Cooley, J. M., Beechtree
Cox, Andrew P., Big Run
Davenport, S. M., Brockwayville
Ditts, H. C., Lindsey
Ernst, Chas. G., Punxsutawney
Foust, J. W., Reynoldsville [1880]

Free, Spencer M., DuBois [1884]
Gourley, R. C., Troutville
Grube, J, E., Punxsutawney [1894]
Grube, J. M., Lindsey
Hamilton, S. S. Punxsutawney ['91]
Haven, J. A., Summerville
Holden, N. E., Corsica
Hughes, C. W., Big Run [1894]
Hunt, R. S., Brookville [1894]
King, J. C., Reynoldsville [1880]
Lawson, T. C., Brookville [1895]
Maine, C. L., Helvetia
Matson, W. F., Punxsutawney
Neale, J. B., Reynoldsville [1890]
Newcome, John A., Sigel
Newcome, W. C., Big Run [1894]
Rankin, M. M., Brockwayville [1888]
Reynolds, S., Reynoldsville
Stahlman, J. C., Richardsville
Thompson, John, Portland Mills, (Elk Co.)
Thompson, Harry P., Portland Mills, (Elk Co.)
Williams, T. R., DeLancey [1892]
Wilson, C. A., Dubois
Wilson, Harry M., Evans City (Butler Co.)
Wilson, J. C., Evans City (But. Co.) [1892]

JUNIATA COUNTY.

Officers.

President,	B. H. Ritter,	McCoytown.
Vice-President,	Darwin M. Crawford,	Mifflin.
Secretary,	Samuel A. Suloff,	Patterson.
Treasurer,	Amos W. Shelly,	Port Royal,

Stated Meetings are held at Mifflin, the second Wednesday of January, April, July and October.

Members.

Banks, Lucien, Mifflin
Banks, W. H., Mifflin
Crawford, Darwin M., Mifflin
Crawford, David M., Mifflin
Fisher, A. J., McCalisterville
Grubb, I. N., Thompsontown
Heading, I. G., McCalisterville
Heading, James G., Academia
Haines, W. H., Thompsontown
Ritter, B. H., McCoytown
Shelly, Amos W., Port Royal
Suloff, Samuel A., Patterson
Williard, H. F., Mexico

LACKAWANNA COUNTY.

Officers.

President,	H. D. Gardner,	Scranton.
Vice-Presidents,	W. M. Reedy,	"
	E. M. Pennypacker,	"
Secretary,	Jas. Stein,	"
Treasurer,	L. M. Gates,	"

Stated Meetings in the Court House, Scranton, the second and fourth Tuesdays of each month.

Members.

Allen, W. E., Scranton
Amman, J. B., Scranton
Arndt, F. F., Scranton
Barnes, L. S., Scranton
Bateson, J. C., Elmhurst
Beddoe, B. G., Scranton
Bernstein, A., Scranton
Billheimer, J., Dickson City

Burnett, J. M., Scranton
Burns, Reed, Scranton
Capwell, D. A., Scranton
Carroll, J. J., Scranton
Connell, A. J., Scranton
Davison, F. B., Fleetville
Dean, G. E., Scranton
Dolan, W. K., Scranton
Everhart, I. F., Scranton
Fisher, C. H., Scranton
Foster, C. E., Honesdale
Frey, C. L., Scranton
Frey, Lewis, Scranton
Fulton, W. G., Scranton
Gates, L. M., Scranton
Gardner, H. D., Scranton
Gibbs, L. H., Scranton
Grover, J. B., Peckville
Gunster, P. F., Scranton
Hall, Fred. C., Scranton
Hermans, E. A., Scranton
Ives, W. W., Scranton
Jenkins, D. H., Scranton
Kay, T. W., Scranton
Kearney, P. J., Scranton
Keller, W. E., Scranton
Kelly, J. A., Carbondale
Kennedy, W. P., Dickson City
Logan, H. V., Scranton
Longstreet, S. P., Scranton
Manley, J. A., Scranton
MacDonald, W. S., Scranton
O'Brien, J. E., Scranton
Paine, W. A., Scranton
Parke, C. R., Scranton
Pennypacker, Edward, Scranton
Phillips, Ellis, Scranton
Rea, J. L., Scranton
Reedy, W. M., Scranton
Reynolds, G. B., Scranton
Stein, Jas., Scranton
Sullivan, J. J., Scranton
Thomson, C. E., Scranton
Throop, B. H., Scranton
Van Sickle, F. L., Olyphant
Wehlau, L., Scranton
Wentz, J. L., Scranton
Williams, W. J., Scranton

LANCASTER COUNTY.

Officers.

President,	J. R. Leaman,	Mountville.
Vice-Presidents,	L. M. Bryson,	Paradise.
	I. M. Witmer,	Conestoga.
Recording Secretary,	Wm. Blackwood,	Lancaster.
Corresponding Secretary,	R. A. Campbell,	"
Treasurer,	G. R. Rohrer,	"

Stated Meetings in Lancaster the first Wednesday of each month at 2 p. m

Members.

Alexander, H. M., Marietta [1881]
Becker, P. N., Mastersonville
Berntheizel, G. W., Columbia ['77]
Biemsderfer, F. D., Lancaster
Black, H. M., Strasburg [1880]
Blackwood, Wm., Lancaster [1877]
Blough, H. K., Elizabethtown [1892]
Boardman, W., Lancaster [1866]
Bockius, S. A., Columbia [1872]
Bolenius, R. M., Lancaster [1881]
Bowman, A. G., Lancaster [1896]
Breneman, P. B., Lancaster
Brenholtz, W. S., Columbia [1893]
Bryson, L. M., Paradise [1888]
Campbell, R. A., Lancaster [1896]
Capp, J. A., Lancaster
Charles, J., Lincoln [1883]
Craig, Alex., Columbia [1869]
Craig, A. R., Columbia [1894]
Crawford, S. M., Columbia [1894]
Davis, M. L., Lancaster [1874]
Davis, S. T., Lancaster [1869]
Day, G. E., Strasburg
Denlinger, M. M., Lancaster
Detweiler, T. C., Lancaster [1887]
Dunlap, J. F., Manheim
Ehler, J. Augustus, Lancaster [1862]
Franklin, C. M., Lancaster [1888]

Frew, G., Paradise [1896]
Gillespie, G. W., Pleasant Grove [1896]
Grey, S. G., Landisville [1892]
Harter, G. F., Maytown
Hassenplug, H. G., Lancaster
Helm, A.H., New Providence [1891]
Helm, C. E., Bart [1892]
Herr, A. J., Lancaster [1876]
Herr, B. F., Lancaster [1881]
Herr, M. L., Lancaster [1872]
Herr, W. M., Rothsville
Hertz, J. K., Lexington
Hertz, J. L., Litiz [1875]
Hurst, M. W., Earlville [1891]
Ilyus, E. B., Lancaster
Ingram, T. E., Marietta [1896]
Irwin, T. S., Christiana
Kalbach, A. M., Lancaster
Kauffman, W. L., Lancaster
Kendig, B., Salunga [1888]
Kohler, J. B., New Holland [1883]
Koser, S. B., Mountville [1896]
Kreiter, J. S., Akron [1884]
Leaman, A. E., West Willow
Leaman, B., Leaman Place [1871]
Leaman, J. R., Mountville [1892]
Leslie, L. R. K., Bareville [1892]
Lightner, I. N., Ephrata [1881]
Lineaweaver, J. K., Columbia [1875]
Livingston, T. M., Columbia [1875]
Long, H., Brickerville
Mann, C. S., Columbia
Markle, C. F., Columbia
Mayer, I. H., Willow Street [1877]
McCormick, D. R., Lancaster
Miller, A. M., Bird-in-Hand [1876]
Miller, S. W., Lancaster [1896]
Motter, M. G., Lancaster [1891]
Mowery, H. A., Marietta [1886]
Mowery, J. L., Cresswell [1883]
Musser, H. E., Witmer [1881]
Musser, J. H., Lampeter [1876]
Myers, H. F., Lancaster [1895]
Netscher, C. E., Lancaster [1891]
Newpher J. J., Mount Joy [1884]
Overfield, J. W., Elizabethtown
Parke, A. G. B., Gap [1877]
Pickel, I. H., Millersville
Reed, J. A. E., Lancaster [1883]
Ringwalt, M., Hempfield [1883]
Roebuck, P. J., Litiz [1866]
Rohrer, G. R., Lancaster [1884]
Rohrer, T. M., Quarryville [1891]
Roland, O., Lancaster [1878]
Schweitzer, R. S., Adamstown [1891]
Shartle, J. M., Millersville [1891]
Shenk, D. H., Rohrerstown [1884]
Shenk, J. H., Litiz [1883]
Showalter, H. C. W., New Holland
Sides, B. F., Furnace
Smith, W. H., Intercourse [1881]
Styer, D. W., Churchtown [1896]
Trabert, J. W., Annville (Lebanon Co.) [1888]
Treichler, A. C., Elizabethtown ['71]
Trexler, J. F., Lancaster
Warren, L. A., Lancaster
Walters, A. F., West Earl [1896]
Welchans, G. R., Lancaster [1879]
Wentz, F., Bainbridge
Wentz, T. H., Kirkwood [1891]
Wentz, W. J., New Providence ['76]
Witmer, E. H., Neffsville
Witmer, I. M., Conestoga [1888]
Work, R. A., Buck
Yost, J. F., Bethesda
Zeigler, J. L., Mount Joy [1865]
Zeigler, J. P., Mount Joy [1881]
Zell, J. W., Fairmount

LEBANON COUNTY.

Officers.

President,	W. M. Guilford,	Lebanon.
Vice-Presidents,	W. F. Klein,	"
	John Walter,	"
Secretary,	C. L. Miller,	"
Treasurer,	J. R. Beckley,	"

Stated Meetings at Eagle Hotel, Lebanon, second Tuesday of each month.

MEMBERS.

Beckley, J. R., Lebanon [1888]
Guilford, Wm. M., Lebanon [1887]
Heilman, S. P., Heilmandale [1883]
Klein, W. F., Lebanon [1895]
Miller, C. L., Lebanon [1894]
Roedel, H. H., Lebanon
Roedel, W. R., Lebanon [1896]
Trabert, J. Wm., Annville [1876]
Uhrich, J. K., Annville [1884]
Walter, John, Lebanon [1891]

LEHIGH COUNTY.

OFFICERS.

President,	R. W. Young,	Slatington.
Vice-Presidents,	W. H. Hartzell,	Allentown.
	F. O. Ritter,	Slatington.
Recording Secretary,	M. F. Cawley,	Allentown.
Corresponding Secretary,	P. L. Reichard,	"
Treasurer,	John R. Lear,	"

Stated Meetings at Hotel Allen, Allentown, the second Tuesday of August October, December, February, April and June.

MEMBERS.

Backenstoe, M. J., Emaus [1894]
Cawley, M. F., Allentown [1891]
Dickensheid, E. H., Allentown
Diller, J. R., Emaus [1894]
Erdman, A. J., Allentown [1896]
Erdman, J. D., Allentown
Erdman, W. B., Macungie [1865]
Eschenbach, W. W., Allentown
Guth, N. L. C., Allentown
Fogel, S. C. B., Fogelsville
Hartzell, W. H., Allentown [1875]
Hendricks, A. W., Allentown
Herbst, H. H., Allentown [1896]
Holben, F. J., Lyon Valley
Horn, H. Y., Coplay
Hornbeck, Jas. S., Catasauqua
Hornbeck, M. E., Catasauqua ['92]
Huebner, Irwin, Allentown
Huff, Irwin F., Schnecksville
Keim, C. J., Catasauqua [1891]
Kern, A. J., Slatington [1896]
Klotz, Robert, Rittersville
Lear, J. R., Allentown [1894]
Martin, C. S., Allentown [1894]
Mickley, Howard, Neff's
Miller, A. N., East Texas
Miller, A. S., Saegersville
Otto, C. J., Allentown
Reichard, P. L., Allentown [1892]
Riegel, H. H., Catasauqua [1891]
Riegel, W. A., Catasauqua [1891]
Ritter, F. O., Slatington [1894]
Ritter, N., Breinigsville
Salade, L. A., Catasauqua
Schaeffer, Charles D., Allentown ['95]
Schearer, T. A., Catasauqua
Seiberling, Fred A., Synnville ['96]
Seiberling, Geo. F., Allentown
Seler, Chas., Allentown [1893]
Young, R. W., Slatington [1891]

LUZERNE COUNTY.

OFFICERS.

President,	Chas. Long,	Wilkesbarre.
Vice-Presidents,	Saml. A. Ruffner,	"
	A. F. Dougherty,	Ashley.
Secretary and Treasurer,	Maris Gibson,	Wilkesbarre.

Stated Meetings at Coal Exchange, Wilkesbarre, first and third Wednesday of each month at 8 P. M.

MEMBERS.

Barney, D., Wilkesbarre
Barton, A. A., Plains [1881]
Beckwith, J. F., Plymouth
Biehl, J. P., Plymouth
Brooks, James, Plains [1886]
Brundage, F. M., Conyngham
Buckman, E. U., Wilkesbarre
Clark, George A., Wilkesbarre [1892]
Collins, D. W., Wilkesbarre
Corss, Fred., Kingston [1869]
Davies, Wm. O., Wilkesbarre
Diefenderfer, E. L., Wilkesbarre
Dodson, Boyd, Wilkesbarre
Dougherty, A. F., Ashley
Edwards, Lewis, Edwardville
Farrell, F. A., Kingston
Faulds, W. H., Luzerne [1885]
Fell, A. G., Wilkesbarre
Foss, W. B., Ashley
Geist, James W., Wilkesbarre
Gibson, Maris, Wilkesbarre
Guthrie, G. W., Wilkesbarre [1885]
Hakes, Harry, Wilkesbarre [1885]
Harvey, O. F., Wilkesbarre [1894]
Hileman, J. S., Pittston [1892]
Holly, S. L., Nanticoke
Howell, J. T., Wilkesbarre [1886]
Hughes, M. B., Shickshinny
Hutchins, R. H., Pittston
James, T. A., Ashley
Johnson, F. C., Wilkesbarre [1886]
Jones, John Harris, Wilkesbarre
Knapp, C. P., Wyoming [1884]
Kunkle, H., Kingston
Lathrop, W., Miner's Mills [1894]
Lenahan, F. P., Wilkesbarre
Long, Charles, Wilkesbarre [1885]
Longshore, W. R., Hazleton [1884]
Mahon, John B., Pittston
Matlack, G. T., Wilkesbarre
McCombs, W., Hazleton
McFadden, C. J., Pittston [1894]
McKee, F. L., Plymouth
McKellar, James, Hazleton
McKeown, H. S., Pittston
Mears, D. W., Audenreid [1891]
Mengel, S. P., Parsons
Myers, N. R., Wanamie
Neale, H. M., Upper Lehigh
Prevost, C. W., Pittston
Roe, J. I., Wilkesbarre
Rogers, L. L., Kingston [1888]
Ross, Nathaniel, Wilkesbarre
Ruffner, S. A., Wilkesbarre
Singer, J. A., Forty Fort
Shoemaker, L. I., Wilkesbarre
Smith, W. C., Wilkesbarre
Stoeckel, Louise M., Wilkesbarre ['92]
Solt, Thomas J., Mountain Top
Spencer, C. A., Dallas
Stewart, Walter S., Wilkesbarre [1891]
Sweeney, E. A., Wilkesbarre
Taylor, L. H., Wilkesbarre [1883]
Taylor, R. P., Wilkesbarre
Wagner, E. C., Wilkesbarre
Weaver, W. G., Wilkesbarre [1885]
Weida, J. B., Luzerne
Weiss, L. E., Miner's Mills [1896]
Whitney, H. L., Plymouth [1891]

LYCOMING COUNTY.

OFFICERS.

President,	G. F. Bell,	Newberry.
Vice-Presidents,	N. L. Johnston,	Williamsport.
	C. B. Bastian,	Salladasburg.
Secretary,	Waldo W. Hull,	Williamsport.
Treasurer,	Wm. P. Logue,	"

Stated Meetings in Williamsport, on first Tuesday of each month at 1.30 p. m.

MEMBERS.

Adams, C. M., Williamsport [1891]
Albright, C. E., Muncy
Albright, Joseph W., Muncy [1893]
Bailey, F. H., Ralston
Bastian, Chas. B., Salladasburg [1893]
Bell, G. F., Newberry [1891]

Bickel, S. E., Jersey Shore
Born, R. H., Montoursville [1893]
Campbell, E. B., Williamsport [1893]
Castleberry, A. N., Williamsport
Chaapel, V. P., Irvona (Clearfield Co.)
Christian, J. L., Hillsgrove (Sullivan Co.) [1893]
Cline, Godfrey H., Jersey Shore ['90]
Collins, W. L., Pott's Grove (Northumberland Co.)
Davis, Sidney, Milton (Northumberland Co.) [1892]
Delaney, W. E., Slate Run [1893]
Derr, J. L., Muncy Valley (Sullivan Co.)
Detwiler, B. H., Williamsport [1866]
Dougal, Chas. H., Milton (Northumberland Co.) [1893]
Earley, C. R., Ridgway (Elk Co.) ['86]
Emerick, H. M., Milton (Northumberland Co.) [1892]
Everett, E., Bernice
Essick, H. M., Picture Rocks [1893]
Fessler, H. H., Newberry [1893]
Fleming, J. F., Trout Run [1892]
Fuller, H. C., Jersey Shore [1890]
Glosser, W. E., Williamsport
Glover, O. W. H., Laurelton (Union Co.)
Haley, E. M., Blossburg (Tioga Co.)
Heller, Chas. E., Williamsport ['93]
Hill, Geo. A., Williamsport [1886]
Horn, E. E., Austin (Potter Co.)
Howell, W. M., Cogan Station
Hughes, Daniel, Phila. (Phila. Co.)
Hull, A. P., Montgomery Station [1892]
Hull, E. S., Montgomery
Hull, W. R., Williamsport [1864]
Hull, W. W., Williamsport [1893]
Johnson, N. L., Williamsport
Kimble, Z. E., Liberty (Tioga Co) [1888]
King, W. L., Lairdsville
Klump, John A., Williamsport ['92]
Konkle, W. B., Montoursville [1893]
Kunkle, W. F., Williamsport [1893]
Logue, W. P., Williamsport
Lumley, E. D., Williamsport
Lyon, Chas. L., Montoursville ['88]
Lyon, Edw., Williamsport [1871]
Marsh, W. G., Watsontown (Northumberland Co)
Martin, C. L., Cammal
McCallister, J. C., Hughesville
McCormick, H. G., Williamsport [1890]
Mench, M. L., Jersey Shore
Metzgar, G. W., Hughesville
Miller, Wm. H., Williamsport
Milnor, M. T., Warrensville [1893]
Moyer, F. L., Williamsport
Moyer, S. T., Shamokin (Northumberland Co.) [1893]
Nevins, Johns, Jersey Shore [1893]
Nevling, F. S., Clearfield (Clearfield Co.) [1892]
Nutt, Geo. D., Williamsport [1873]
Page, M. E., Picture Rocks
Persing, A. V., Allenwood (Union Co.)
Rich, Thos. C., Williamsport [1888]
Richter, A. Williamsport
Rielly, P. C., Williamsport [1893]
Ritter, Ella N., Williamsport
Ritter, Murry, Williamsport
Rote, W. H., Williamsport [1893]
Saylor-Brown, Jean, Williamsport [1886]
Schneider, Chas., South Williamsport [1896]
Schneider, Louis, Williamsport [1885]
Shull, J. D., Williamsport [1896]
Smith, G. A., Liberty (Tioga Co.)
Steans, J. C., Mifflinburg (Union Co)
Steans, Ralph, Mifflinburg (Union Co) [1893]
Stokes, A. J., Williamsport
Thornton, T. C., Lewisburg (Union Co) [1892]
Tule, R. Bruce, Montandon (Northumberland Co.)
Van Horn, John W., Farragut
Voorhees, C. D., Laporte (Sullivan Co.)
Wackenhuth, C. F., Jamison City (Columbia Co.) [1893]
Welker, A. T., Collomsville [1893]
Wood, Geo. G., Muncy
Yost, B. M., Linden [1893]
Youngman, Chas. W., Williamsport [1884]

McKEAN COUNTY.

Officers.

President,	C. S. Hubbard,	Bradford.
Vice-President,	W. F. Fredericks,	Duke Centre.
Secretary and Treasurer,	J. C. Walker,	Bradford.

Stated Meeting in Bradford, first Tuesday of January, April, July and October.

Members.

Ash, D. E., East Bradford
Benninghoff, G. E., Bradford
Burdick, W. P., Mt. Jewett
Buss, C. D., Bradford
Canfield, H. A., Bradford
Chesney, H. C., Custer City
Dorn, S. B., Bradford
Fredericks, W. J., Duke Centre
Gibson, W. R., Bradford
Hubbard, C. S., Bradford
Johnston, Jas., Bradford
Kane, Elizabeth D., Kane [1896]
Kane, Evan O., Kane [1896]
Kane, Thomas L., Kane
Nichols, H. J., Bradford
Russell, W. J., Bradford
Straight, A. M., Bradford
Walker, J. C., Bradford
Winger, F. W., Bradford

MERCER COUNTY.

Officers.

President,	T. M. Mitchell,	Jamestown.
Vice-Presidents,	M. M. Magoffin,	Mercer.
	D. B. Hanna,	Stoneboro.
Secretary,	R. D. Morford,	Greenville.
Treasurer,	F. G. Byles,	Fredonia.

Stated Meetings in Mercer, second Friday of July and October: in Greenville, second Friday of January and April.

Members.

Bachop, John C., Sheakleyville
Barnes, M. A., Pardoe
Byles, F. G., Fredonia
Clark, A. T., Greenville [1871]
Davidson, S. S., Mercer [1890]
Griswold, E., Sharon [1873]
Hanna, D. B., Stoneboro
Heilman, S., Sharon [1874]
Hillier, J. W., West Middlesex ['78]
Hope, R. M., Mercer [1895]
Jackson, T. M., Hadley [1878]
Livingston, J. B., West Middlesex [1869]
Magoffin, M. M., Mercer [1890]
Martin, J. M., Grove City
McConnell, E. M., Grove City
McElrath, J. B., Jackson Centre ['74]
Mitchell, T. M., Jamestown [1884]
Morford, R. D., Greenville, [1890]
Mossman, B. E., Greenville [1870]
Nelson, J. M., Worth
Reed, J. H., Sharon [1880]
Scoville, J. M., Sharpsville [1890]
Seidel, ——, Worth
Shilling, G. W., Sharon
Shutt, John T., Greenville
Thompson, J. C., Sandy Lake
Tidd, E. J., Clarksville
Twitmyer, J. H., Sharpsville [1875]
Weidman, J. C., Mercer
Yeager, G. W., Mercer

MIFFLIN COUNTY.

Officers.

President,	J. A. C. Clarkson,	Lewistown.
Vice-Presidents,	W. S. Wilson,	McVeytown.
	S. H. Rothrock,	Reedsville.
Secretary,	H. W. Sweigart,	Lewistown.
Treasurer,	A. S. Harshberger,	"

Stated Meetings in Lewistown (or elsewhere, as may be selected) on the second Tuesday of January, April, July and October.

Members.

Bigelow, B. A., Belleville [1895]
Clarkson, J. A. C., Lewistown ['88]
Getter, J. P., Belleville [1888]
Harshberger, A. S., Lewistown ['75]
Kohler, B. R., Reedsville
Lemmer, J. C., Scotdale [1894]
McKim, V. I., Burnham
Moorehouse, W. G., (Phila.) ['93]
Nipple, D. Clark, Newton Hamilton
Parcels, W. H., Lewistown [1896]
Rothrock, S. H., Reedsville [1895]
Sweigart, H. W., Lewistown
Wilson, W. S., McVeytown [1883]

MONTGOMERY COUNTY.

Officers.

President,	H. F. Slifer,	North Wales.
Recording Secretary,	H. H. Whitcomb,	Norristown.
Treasurer,	S. N. Wiley,	"

Stated Meetings in the Borough Hall, Norristown, on the Wednesday on or before the first full moon of each month, except July and August.

Members.

Allison, R. H., Ardmore [1891]
Anderson, Joseph W., Ardmore ['72]
Arnold, Herbert A., Ardmore [1883]
Beaver, D. R., Conshohocken ['75]
Bennet, Alice, Norristown [1881]
Bergey, D. H., Philadelphia [1887]
Bigoney, F. G., Lansdale
Care, Jas. R., Worcester
Chase, R. H., Friends' Asylum, Frankford [1883]
Corson, E. M., Norristown [1876]
Corson, Percy H., Plymouth Meeting [1896]
Crabtree, Geo. H., Royersford
Davis, John, Pottstown [1883]
Drake, H. H., Norristown [1879]
Eisenberg, P. Y., Norristown [1874]
Ellershaw, Albert, Bridgeport
Fetter, E. C., North Wales
Gerhard, E. F., Norristown [1891]
Groff, J. W., Harleysville [1890]
Hall, Wm. M., Conshohocken [1884]
Hartman, G. F., Port Kennedy ['90]
Highley, G. N., Conshohocken ['84]
Hobensack, J. Rex, Phila. [1895]
Horning, S. B., Lower Providence
Hough, C. B., Ambler
Hunsburger, J. Newton, Skippack [1891]
Jarrett, Harry, Camden, N. J. ['88]
Kane, J. J., Norristown [1894]
Knipe, J. O., Norristown [1879]
Leedom, Oscar, Plymouth Meeting [1884]
Mann, C. H., Bridgeport [1876]
Markley, Paul, Hatboro [1894]
McCaffrey, Geo. W., Norristown
McGrath, Francis, Philadelphia
Mewhinney, J. C., Spring City (Chester Co.) [1891]
Miller, E. F., King of Prussia
Read, L. W., Norristown [1883]
Richards, Emma E., Norristown ['88]
Seiple, J. H., Centre Square

Slifer, H. F., North Wales [1892]
Spear, J. C., Norristown [1894]
Stiles, G. M., Conshohocken [1876]
Umstead, J. R., Norristown [1888]
Van Artsdalen, F. V., 1602 Tioga st., Philadelphia [1884]
Watson, Florence H., Norristown [1894]
Weaver, J. D., Norristown [1890]
Weaver, J. K., Norristown [1875]
Weber, C. Z., Norristown [1883]
Weber, M. Y., Lower Providence
Whitcomb, H. H., Norristown ['81]
Wiley, S. N., Norristown [1891]
Wilmarth, A.W., Norristown [1894]
Wilson, F. S., Jarrettstown [1884]

MONTOUR COUNTY.

Officers.

President,	W. H. Adams,	Danville.
Vice-Presidents,	Cameron Shultz,	"
	R. E. Johnstone,	"
Secretary,	J. R. Kimerer,	"
Corresponding Secretary,	C. B. Mayberry	"
Treasurer,	P. C. Newbaker,	"

Stated Meetings in Danville, third Tuesday of each month at 8 p. m.

Members.

Adams,W. Herbert, Danville [1895]
Bitler, B. E., Washingtonville
Curry, E. A., Danville [1893]
Hoffa, J. P., Washingtonville ['82]
Johnstone, R. E., Danville [1896]
Kimerer, J. R., Danville [1896]
Mayberry, C. B., Danville [1891]
Meredith, H. B., Danville [1891]
Newbaker, P. C., Danville [1879]
Oglesby, James, Danville [1875]
Palmer, Alice E., Danville
Robbins, J. E., Danville [1896]
Shultz, Cameron, Danville
Smith, N. M., Riverside (Northumberland Co.) [1884]
Voorhees, N. W., Danville

NORTHAMPTON COUNTY.

Officers.

President,	W. H. Dudley,	Easton.
Vice-Presidents,	A. L. Kotz,	"
	W. H. Seip,	Bath.
Recording Secretary,	Charles McIntire,	Easton.
Corresponding Secretary,	H. T. Edwards,	South Bethlehem.
Treasurer,	Amos Seip,	Easton.

Stated Meetings third Friday of April at Easton; of June, at Bath; of August, at Bangor; of December, at Easton; of February, at Bethlehem; in October, on St. Luke's day, at Bethlehem.

Members.

Anderson, G. R., Portland
Andreas, B. A., South Bethlehem
Apple, S. S., Easton [1894]
Arndt, O. E. E., Easton
Beck, R. H., Hecktown [1884]
Berlin, J. O., Bath [1884]
Brown, Alfred, Hellertown
Burkhart, H. A., Bethlehem [1894]
Collmar, Charles, Easton
Cope, Thomas, Nazareth
Dilliard, B. F., East Bangor
Dudley, W. H., Easton [1896]
Edwards, H. Threlkeld, South Bethlehem

Engelman, David, Easton [1876]
Engelman, J. P., Cherryville [1876]
Erwin, F. H., South Bethlehem ['94]
Estes, W. L., South Bethlehem ['85]
Evans, E. W., Easton
Frace, P. W., Easton
Freeman, G. W., Freemansburg
Green, E. M., Easton [1888]
Green, Traill, Easton [1863]
Greenwald, Mary, Stroudsburg (Monroe Co.)
Hersh, D. G., Bangor
Hunt, J. S., Easton [1883]
Keller, D. H., Bangor [1886]
Koch, J. G., Petersville
Kotz, A. L., Easton [1894]
Laciar, H. J., Bethlehem
Lawall, L. H., Bethlehem [1892]
McAllister, Anna M. (Philada.)
McIlhaney, W. H., Easton [1888]
McIntire, Charles, Jr., Easton ['76]
Michler, H. D., Easton
Miesse, Kate De W., Easton [1891]
Moore, J. W., Easton [1888]
Ott, C. H., Sayre [1888]
Ott, Isaac, Easton [1871]
Raub, J. F., Bethlehem
Reagan, A. D., Easton
Rentzheimer, W. H., Hellertown [1894]
Roebuck, J. H., Bethlehem
Schnabel, E. D., Bethlehem [1894]
Seem, A. A., Bangor [1879]
Seip, Amos, Easton [1863]
Seip, W. H., Bath [1883]
Steinmetz, E. G., Hokendauqua (Lehigh Co.) [1875]
Stem, P. E., South Bethlehem
Stout, A., Bethlehem [1883]
Swartz, G. N., Pen Argyl
Swoyer, O. D., South Bethlehem ['94]
Uhler, S. P., Easton
Uhler, T. M., Philadelphia (Philadelphia Co.) [1884]
Updegrove, J. D., Easton [1891]
Weaver, S. J., Bethlehem [1875]
Wickert, H. J., Bingen
Wilhelm, E. T., South Bethlehem
Wilson, J. H., Bethlehem [1888]
Ziegenfuss, Nathan, Bethlehem ['95]
Zulick, T. C., Easton

NORTHUMBERLAND COUNTY.

Officers.

President,	S. F. Gilbert,	Elysburg.
Vice-President,	B. F. Wagenseller,	Selinsgrove.
Recording Secretary,	Wm. B. Stoner,	Sunbury.
Treasurer,	W. W. Moody,	"

Stated Meetings in Sunbury, third Thursday of each month.

Members.

Alleman, E. A., West Milton
Awl, R. H., Sunbury
Burg, H. W., Northumberland
Clark, A. C., Sunbury [1894]
Cooper, E. B., Sunbury
Davis, Sidney, Milton
Derr, F. S., Watsontown [1896]
Dougal, Chas. H., Milton
Dougal, J. Sterrett, Milton
Drumheller, F. E., Sunbury
Furey, G. W., Sunbury
Gilbert, S. F., Elysburg
Graham, W. Thos., Sunbury
Hard, J. T., Sunbury
Hollenbach, D. S., Shamokin
Horner, E. H., Turbotville
Keller, J. J., Seven Points [1896]
Kennedy, Robert A., Shamokin
Kerchner, B. L., Dalmatia [1892]
Lyons, F., Turbotville
Maurer, J. M., Shamokin
McWilliams, K. C., Shamokin
Mouteluts, R. W., Mt. Carmel ['96]
Moody, W. W., Sunbury
Musgrave, G. W., Watsontown
Newbaker, J. B., Treverton
Purman, W. H., Northumberland
Raker, F. D., Shamokin [1892]

Renn, P. H., Sunbury [1894]
Robins, Edw. S., Shamokin
Schock, L. E., Shamokin
Sheets, J.W., Northumberland ['96]
Shindle, W. L., Sunbury
Stoner, W. B., Sunbury [1894]
Wagonseller, B. F., Selinsgrove
Wenck, Mary McCay, Sunbury ['95]
Westhauffer, H. E., Sunbury

PERRY COUNTY.

Officers.

President,	J. F. Thompson,	Liverpool.
Secretary,	A. D. VanDyke,	Marysville.
Treasurer,	D. B. Milliken,	Landisburg.

Stated Meetings on second Tuesday of January, and at other times and places selected; four meetings a year.

Members.

Barnett, R. T., Landisburg
Bryner, J. H., Ickesburg [1890]
DeLancy, C. E., Newport [1896]
Eby, James B., Newport [1873]
Gutshall, Frank A., Blaine [1896]
Hooke, P. B., Loysville
Hoops, W. H., Newport
Johnson, A. R., New Bloomfield
Johnston, T. L., Duncannon [1887]
Kinzer, G. S., Markleville
Milliken, D. B., Landisburg [1866]
Mitchell, G. W., Andersonburg
Moore, E. E., New Bloomfield
Orris, H. O., Newport [1873]
Reutter, H. D., Duncannon
Ruch, W. S., Marysville
Shearer, A. L., Duncannon
Sheibly, J. A., Shermansdale
Sheibly, J. P., Landisburg [1876]
Shumaker, L. M., Elliottsburg
Strickler, M. B., Washington (D. C.)
Thompson, J. F., Liverpool
Van Dyke, A. D., Marysville [1888]

PHILADELPHIA COUNTY.

Officers.

President,	Jas. C. Wilson,	1437 Walnut st
Vice-Presidents,	Jas. Tyson,	1506 Spruce st
	Thos. J. Mays,	1829 Spruce st
Treasurer,	C. L. Bower,	1937 Vine st
Secretary,	T. B. Schneideman,	215 S. 17th st
Assistant Secretary,	John Lindsay,	340 South 15th st

Stated Meetings for business the third Wednesday of January, April, June and October. Scientific meetings the second and fourth Wednesdays of each month except July and August. All at the College of Physicians, N. E. corner of 13th and Locust Streets, at 8 P. M.

Members.

Adams, J. Howe, 1523 Locust
Adams, Jeannie S., 1205 Spruce
Adler, John M., 1028 Spruce ['88]
Adler, Lewis H., Jr., 1610 Arch ['84]
Alexander, J. J., 1329 N. 18th ['84]
Allen, Harrison, 1933 Chestnut ['84]
Allen, Joshua G., 1237 Spruce [1884]
Allen, Mary E., 346 S. 16th [1891]
Allis, Oscar H., 1604 Spruce [1874]
Allyn, H. B., 40th and Locust
Anders, Howard S., 1836 Wallace [1894]
Anders, Jas M., 1603 Walnut ['83]
Andrews, T. H., 1119 Spruce [1876]

Angney, Wm. M., 519 Spruce ['84]
Apeldorn, E. F., 2113 Howard ['94]
Applebach, H. E., 638 Diamond
Ash, Henry St. Clair, 1335 Fairmount av [1862]
Ashhurst, John, Jr., 2000 W. De Lancey Place [1881]
Ashhurst, Samuel, 2308 W. De-Lancey Place [1876]
Ashton, Thomas G., 1533 Pine
Ashton, Wm. E., 2011 Walnut
Atkinson, Wm. B., 1400 Pine [1862]
Audenried, Ada H., 125 S. 16th ['96]
Aulde, John, 1338 Walnut [1890]
Bacon, John, Eastern Penitentiary
Baer, B. F., 2010 Chestnut ['83]
Baker, A. G., 404 Susquehanna ave
Baker, G. F., 1818 Spruce [1891]
Baker, W. H., 1610 Summer ['79]
Baldwin, Kate W., 320 So. 11th
Baldy, J. M., 1722 Chestnut [1891]
Ball, Michael V., 529 Pine
Banes, S. T., 845 N. Broad [1890]
Barker, T. Ridgway, 427 S. 16th
Bartholow, Roberts, 1525 Locust [1888]
Barton, Amy S., 1523 Spruce
Barton, Isaac, 137 N. 16th
Barton, J. M. 1337 Spruce [1878]
Batt, W. R., 2449 Columbia ave [1894]
Bauer, Charles, 929 N. 7th [1892]
Bauer, Louis D., 5th & Fairmount av
Baum, Chas., 630 N. Broad [1888]
Baxter, H. F., 1422 Christian [1876]
Beates, Henry, Jr., 1504 Walnut [1883]
Beatty, T. J., 1315 Howard
Bell, J. R. F., 2028 N. Broad
Benner, Henry D., 841 S. 3d
Bennett, Wm. H., 2105 Spruce
Berens, Bernard, 2004 Chestnut
Berens, Conrad, 1707 Arch
Bernardy, Eugene P., 221 S. 17th
Biddle, A. W., Chestnut Hill ['93]
Bissey, H. S., 1630 N. 16th
Bland, Thomas T., 1519 S. 6th
Bliss, A. A., 1832 Race [1895]
Bloom, H. C., 1427 Walnut ['94]
Bobb, Wallace G., 2444 N. 6th
Bochroch, Max H., 937 N. 8th ['84]
Bodamer, George A., 1507 Girard av
Boenning, H. C., 538 N. 6th
Boger, John A., 2213 N. Broad
Bolton, B. Meade. ———
Bolton, Jos. P., 1225 Walnut
Bonnaffon, S. A., Broad St. Station [1896]
Boom, H. H., 1212 Master
Bournonville, A. C., 1517 Girard av [1888]
Bower, C. L., 1937 Vine [1888]
Bower, J. F., 243 N. 20th
Boyd, G. M., 1953 Locust [1894]
Boyer, A. H., 2556 Bridge st., Bridesburg [1891]
Boyer, David P., 1935 N. 8th ['91]
Bradfield, G. M., 1230 Spring Garden
Bradford, T. Hewson, 125 S. 18th ['80]
Brady, Franklin, 1815 Frankford av
Bready, Conrad R., 1921 N. 7th
Bricker, C. E., 2739 Girard av
Bricker, Wm. H., 227 N. 22d ['94]
Brinkman, Leon, 1915 Vine
Brinton, John H., 1423 Spruce ['86]
Brinton, Lewis, 802 N. Broad
Bromley, John L., 1532 N. 15th
Broomall, Anna E., 1229 Walnut
Brous, Henry A., 900 Pine
Brubaker, A. P., 105 N. 34th
Brunet, J. E., 2038 N. Broad
Bryan, H. N., 144 N. 20th
Buck, W. Penn, 133 N. 19th
Buckby, W., 1744 Diamond ['75]
Bundy, Elizabeth R., 1921 Chestnut
Bunting, Ross R., 4301 Ridge av Manayunk [1883]
Burke, Jos. J., 2011 Christian ['94]
Burnett, Chas. H., 127 S. 18th ['83]
Burns, R. B., 4321 Frankford av ['88]
Burns, W. A., 1326 Spring Garden [1888]
Burr, C. W., 1327 Spruce
Cadwalader, C. E., 240 S. 4th ['82]
Cahall, W. C., 3502 Ridge av ['91]
Caldwell, Alex., 1904 Christian
Cantrell, J. A., 315 S. 18th
Capp, W. M., 2211 Spruce [1888]
Carey, Wm. A., 1847 N. 18th
Carpenter, H. B., 1523 Locust
Carpenter, J. T., 1419 Walnut
Carrier, Frederick, 40 N. 16th ['88]
Carroll, Wm., 617 S. 16th
Carter, W. S., 807 N. 41st

Cassady, F. F., 4279 Paul st., Frankford [1888]
Cassel, G. L., 1908 Diamond ['95]
Castle, F. D., 1502 Walnut [1888]
Cattell, H. W., 3709 Spruce [1894]
Chambers, George H., 739 N. 17th
Chase, A. F., 3805 Baring [1888]
Chase, R. H., Frankford Insane Asylum
Chestnut, John H. W., 1757 Frankford av [1876]
Christian, H. M., 1422 S. Broad
Clark, George G., 2019 N. 16th
Clark, Leonardo S., 1505 Girard av [1876]
Clausen, J. R., 717 Betz Building
Claxton, Charles, 5131 Wayne av., Germantown
Cleeman, R. A., 2135 Spruce ['79]
Cleveland, A. H., 1423 Walnut
Cohen, J. Solis, 1431 Walnut ['86]
Cohen, Sol. Solis, 219 S. 17th ['86]
Coles, Stricker, 259 S. 15th
Colgan, Jas. F. E., 988 N. 5th
Connor, D. N., 1515 Girard av ['84]
Cooke, Dudley T., 1536 S. Broad
Cooke, Edwin S., 1616 Christian
Cooper, J. Cardeen, 1016 Lehigh av
Coyle, R., 1820 Fairmount av ['94]
Crandall, T. V., 1916 Spring Garden [1886]
Croasdale, Hannah T., 1525 Walnut [1891]
Croskey, J. W., 1802 Chestnut ['96]
Cross, Geo. D., 1804 Chestnut ['93]
Crowley, T. Stanton, 2040 Locust
Cruice, R. B., 114 N. 18th [1879]
Currie, C. A., 5112 Germantown av [1878]
Curry, T., 1536 Vine
Curtin, Roland G., 22 S. 18th ['81]
Curtis, Levi, 458 N. 6th [1862]
Custor, D. D., 137 Green Lane, Manayunk [1894]
Da Costa, J. C., 1633 Arch ['86]
DaCosta, John C. Jr., 1633 Arch
DaCosta, J. Chalmers, 2050 Locust
Daland, Judson, 319 S. 18th [1888]
Darrach, James, 5021 Green, Germantown
Davidson, C. C., 200 S 12th [1888]
Davis, Edw. P., 250 S. 21st
Davis, G. G., 255 S. 16th [1885]
Davisson, Alex. H., 2204 Pine
Dean, H. J., 1330 S. 15th
Deaver, H. C., 1629 Oxford [1892]
Deaver, Jno. B., 1634 Walnut ['83]
Deaver, R. W., 6075 Germantown av
Dercum, Clara T. 1115 Fairmount av
Dercum, F. X., 810 N. Broad [1888]
DeYoung, A. H., 1001 N. 6th
Dick, J. W., 1945 Christian
Dixon, Samuel G., 2015 Chestnut
Dixon, W. C., 4039 Batimore av
Donahay, D. S., 720 N. 19th
Donnellan, P. S., 1028 Spruce ['94]
Dorland, W. A. N., 120 S. 17th ['94]
Downes, A. J., 1725 Girard av
Downes, Norton, 102 W. Walnut Lane, Germantown
Downs, Thomas A., 409 N. 41st
Dripps, John H., 1812 N. 11th
Drysdale, Thos. M., 1307 Locust ['64]
Duer, Edward L., 1606 Locust ['88]
Duhring, L. A., 1411 Spruce st ['77]
Dulles, Chas. W., 4101 Walnut ['83]
Dundore, A. J., 2012 Master
Dunmire, G. B., 1618 Spruce ['74]
Dwight, H. E., 336 S. 15th [1888]
Dwight, M. B., 3412 Baring
Eagleton, S. P., 1409 Locust [1894]
Earley, T. B., 1228 Fairmount av
Eaton, Albert, M., 2018 N. 11th
Eckfeldt, John W., 241 N. 65th
Eckman, Phil. N., 2229 Fairmount av
Edwards, Jos. F., Atlantic City, N J.
Ekwurzel, Wm., 4531 Frankford av
Ellinger, T. J., 737 N. 41st [1894]
Ely, Thomas C., 2041 Green
Erck, Theo. A., 338 S. 15th
Eshner, A. A., 224 S. 16th
Evans, Wm., 404 N. 41st
Farr, W. W., 5800 Green, Germantown
Faught, G. G., 861 N. Broad [1884]
Feldstein, A., 868 N. 6th
Fenton, T. H., 1319 Spruce [1880]
Ferguson, Wm. N., 116 W. York ['94]
Fischelis, P., 828 N. 5th
Fischer, Emil, 729 N. 6th
Fisher, Frank, 1834 Arch [1892]
Fisher, Henry M., 317 S. 12th st
Fisher, J. M., 1527 Wallace [1893]
Fisher, John V., 6023 Lombard
Fisher, Mary, 1834 Arch
Fleisher, Rebecca, 621 N. 16th

Flick, Lawrence F., 736 Pine [1885]
Forbes, W. S., 901 Pine [1881]
Formad, Marie K., 1008 N. 6th
Fox, C. W., 1822 Locust [1884]
Fox, Horace, 3253 N. 15th [1894]
Fox, L. Webster, 1304 Walnut [1885]
Franklin, M., 1518 N. Broad
Freeman, Walter J., 1720 Locust
French, M. S., 1437 Spruce [1880]
Freund, H. H., 1310 S. 5th [1888]
Frick, Wm. S., 821 N. 8th [1873]
Frické, Albert, 235 N. 6th [1862]
Friebis, Geo., 1906 Chestnut [1888]
Frowert, Chas. G., 236 N. 12th
Frutchie, F., 2409 N. 17th
Fuller, D. B., 208 N. 34th
Fullerton, Anna M., Woman's Hospital, 22d and College av [1893]
Fussell, M. Howard, 189 Green Lane, Manayunk [1888]
Gans, Emanuel S., 711 Franklin
Gardner, Charles H., 963 N. 10th
Getchell, Francis H., 1432 Spruce
Gibb, Joseph S., 817 Franklin ['86]
Gillespie, Jas. A., 2038 So. 13th
Gillespie, Jno., 1434 S. Broad ['88]
Gillespie, Wm. J., 1641 So. Broad
Girvin, Rob. M., 3906 Walnut [1880]
Githens, W. H. H., 1512 Pine [1884]
Gittelson, S. J., 1636 Walnut
Gittings, J. B. H., 3701 Chestnut ['84]
Goebel, George, 1601 Columbia av
Goodell, W. Const. 1418 Spruce [1894]
Gould, George M., 119 S. 17th [1894]
Graham, E. E., 1713 Spruce [1893]
Graham, Jas., 1502 Spruce [1884]
Graham, John, 326 S. 15th
Green, P. C., 2660 N. 16th
Greene, Wm. H., 204 N. 36th
Greenwald, D. F., 2417 Master
Griffith, J. P. C., 123 S. 18th [1888]
Groff, C. A., 215 N. 13th [1884]
Gross, Wm. D., 701 N. 40th [1884]
Grove, John H., 1504 Arch [1884]
Gruel, T. H. E., 1237 Spring Garden
Haehnlen, W. F., 1616 Walnut
Hale, G., Jr., 4428 Paul st, Frankford [1888]
Hall, L. Brewer, 161 N. 15th [1879]
Hamill, Samuel M., 1822 Spruce
Hamilton, Arthur M., 4500 Springfield av
Hammond, L., Jr., 712 S. 10th
Hand, Alfred, Jr., 211 So. 17th
Hansell, Howard F., 254 S. 16th [1884]
Hare, H. A., 222 S. 15th [1892]
Harlan, Geo. C., 1515 Walnut [1888]
Harland, Wm. G. B., 5200 Germantown av
Harte, Richard H., 1503 Spruce
Hartzell, M. B., 3634 Chestnut ['90]
Hawkes, E. G., 1936 N. 22d
Hawley, B. F., 417 N. 33d
Hay, Charles M., 1102 N. 40th
Hay, Thomas, 1127 Arch [1866]
Hazel, F. B., 841 N. Broad ['83]
Healy, John J., 409 S. 22d
Hearn, Chas. S., 1225 Walnut
Hearn, W. Jos. 1120 Walnut [1880]
Heisler, John C., 3705 Powelton av
Hellyer, Edwin E., 2339 E. Susquehanna av [1862]
Henry, Fred. P., 1635 Locust [1879]
Henszey, S. C., 3320 Hamilton ['94]
Herbert, J. Frederick, 1313 Arch
Hertz, Silas G., 1113 Chestnut
Hess, Robert J., 610 Fairmount av
Hewson, Addinell, 1508 Pine [1888]
Hickey, S. J., 1802 N. 23d
Hickman, Harbeson, 3200 Columbia av
Hickman, Nap., 324 S. 16th [1879]
Higbee, W. S., 544 Tasker
Hill, Horace G., 3416 Baring
Hinkle, A. G. B., 1300 Spring Garden [1865]
Hinkle, Wm. M., 1300 Spring Garden [1895]
Hinsdale, Guy, 3943 Chestnut
Hirsh, A. B., 1730 Girard av [1884]
Hirst, Barton C., 1821 Spruce [1888]
Hoban, Chas. C., 1546 S. 15th
Hoch, Wm. R., 1338 Walnut [1884]
Hoffman, J. E., 126 W. Diamond
Holland, J. W., 2006 Chestnut ['87]
Hollopeter, W. C., 1428 N. Broad [1883]
Holmes, Edmund W., 1626 Mount Vernon [1886]
Holt, Jacob F., 1935 Poplar [1876]
Hooper, Peter, 1801 Tioga
Hopkins, Wm. B., 1904 S. Rittenhouse Square [1888]
Hopkinson, O., 1606 S. Broad
Horner, C. W., 1636 Walnut ['79]

Horwitz, Orville, 1115 Walnut ['88]
Houghton, C. W., 1528 N. 7th ['93]
Howard, E. Clarence, 508 S. 10th
Hughes, Donnel, 4005 Chestnut ['84]
Hughes, Wm. E., 3726 Baring [1888]
Hulshizer, A. H., 1419 E. Susquehanna ave [1885]
Irwin, J. K., 663 N. 15th
Irwin, James A., 634 Snyder av
Jackson, Edw'd, 1633 Locust [1881]
Jacob, A. N., 1617 Wallace
Janney, Wm. S., 1535 N. Broad ['81]
Johnson, Russell H., Summit, Chestnut Hill [1894]
Johnson, W. N., 5346 Germant'wn av
Jones, C. J., 1014 N. 6th
Jones, Eleanor C., 641 N. 8th
Judd, L. D., 3603 Powelton av ['84]
Jump, Henry D., 1251 S. 47th
Jurist, Louis, 916 N. Broad [1888]
Keely, R. N., 228 S. 9th [1893]
Keen, Wm. W., 1729 Chestnut [1883]
Keiser, Elmer E., 3710 Longshore, Tacony [1894]
Keller, A. P., 136 Race
Kelly, A. O. J., 1935 Pine [1896]
Kelly, J. V., 4257 Main, Manayunk [1883]
Kemerly, E. F., 1130 Spruce
Kempton, A. F., 2118 Pine [1888]
Ketcham, S. R., 1708 Green
Kevin, Robert O., 1315 S. 15th
Keyser, P. D., 1832 Arch [1874]
Kilduffe, Robert, 767 S. 12th
Kinne, H. S., 3125 Columbia av
Kirby, Elwood R., 1202 Spruce
Kirkbride, M. Frank, 2212 Green
Kirkbride, Thos. Story, 1406 Spruce
Kirkpatrick, A. B., 1745 N. 15th [1892]
Klapp, W. P., 622 Spruce
Kline, Wm. O., Jr., 1211 Germantown av
Koch, Isidore M., 706 N. 20th
Koerper, J., 503 Marshall
Kollock, Katharine, 1705 Mt. Vernon [1894]
Kyle, D. B., 1517 Walnut [1894]
Kynett, H. H., 1728 Spring Garden
Ladd, Horace, 1225 Arch [1883]
Lamparter, Eugene, 1440 S. Broad
Lancaster, Thos., 1303 N. Broad ['88]
Langrehr, H., 2226 N. Broad
Laplace, Ernest, 1828 Locust ['92]
Latta, Sam. W., 3626 Baring [1892]
Lautenbach, L. J., 1723 Walnut ['88]
Leaman, Henry, 832 N. Broad ['76]
Leaman, Rosh, 1033 Vine
LeConte, Robert G., 346 S. 16th
Lee, Benjamin, 1532 Pine [1867]
Lee, B. R., 2237 Spring Garden ['91]
Leffman, H., 715 Walnut [1881]
Leopold, Isaac, 1518 Franklin
Levan, J. R., 733 N. 41st [1880]
Lewars, H. S., 828 Spring Garden
Lewis, Bertha, 3234 Powelton av
Lewis Morris J., 1316 Locust
Lindsay, John, 340 S. 15th [1894]
Litch, Wilbur F., 1507 Walnut
Lloyd, J. Hendrie, 3910 Walnut
Lockery, Sarah H., 1520 Vine
Loder, P. E., 517 S. 8th [1888]
Loeling, G., 1648 Franklin
Longaker, Daniel, 652 N. 8th ['90]
Longenecker, C. B., 3501 Hamilton
Longstreth, M., 1416 Spruce [1888]
Lopez, J. H., 126 N. 17th [1888]
Loux, Hiram R., 1941 N. 12th
Love, L. F., 2209 Walnut [1885]
Lowengrund, Lee, 1827 N. 18th ['88]
Luther, Frederick M., 1601 Girard av
MacBride, I., 1761 Frankford av
McAlarney, W. M., 1426 Poplar
McAllister, Anna M., 2045 Chestnut
McCall, C. A., 3941 Chestnut [1884]
McCamy, R. H., 1932 E. Cumberland
McClellan, George, 1352 Spruce
McClelland, Cochran, 316 S. 11th [1877]
McCollin, S. M., 1823 Arch [1888]
McCombs, R. S., 648 N. 11th ['84]
McConnell, Jas. W., 1909 Chestnut
McCreight, R., 1340 E. Montgomery
McDowell, S. B., 925 N. Broad ['84]
McFarland, Joseph, 1314 Franklin
McFetridge, W. C., 1309 Howard
McKelway, George I., 1612 Locust
McLean, Hugh D., 1331 Pine
Makuen, G. H., 1419 Walnut ['96]
Mann, Jas. P., 603 N. 12th
Marshall, Clara, 1712 Locust
Marshall, George M., 1423 Walnut
Martin, Edward, 415 S. 15th ['88]
Martin, Howard B., 1724 Green
Martin, J., 2009 Columbia av

Massey, G. B., 1636 Walnut [1886]
Mathews, Franklin, 1720 N. 22d
Mays, Thos. J., 1829 Spruce ['77]
Means, Chas. S., 738 S. 12th ['94]
Mears, J. Ewing, 1429 Walnut ['83]
Meeser, Geo. F., 1425 S. Broad ['94]
Meigs, Arthur V., 1322 Walnut ['88]
Metzler, Gottfried, 749 Franklin
Miller, D. J. Milton, 345 So. 18th
Miller, G. B., 634 Diamond
Miller, John S., 1917 Girard av
Miller, Morris B., 249 S. 15th
Milliken, F. H., 3614 Walnut
Milliken, Geo. G., 3614 Walnut
Mills, Chas. K., 1909 Chestnut ['79]
Minich, A. K., 145 Susquehanna av [1881]
Mitchell, James, 17th and Olive
Mitchell, John K., 256 S. 15th
Mitchell, S. Weir, 1524 Walnut ['84]
Mitcheson, R. S. J., 1522 N. 15th
Montgomery, E. E., 1715 Walnut [1881]
Moore, C. C., 2349 E. Cumberland
Moorhead, W. W., 1523 Pine
Morehouse, Geo. R., 2033 Walnut
Morris, Caspar, 240 S. 21st
Morris, Elliston, J., 128 S. 18th ['92]
Morris, Henry, 313 S. 16th ['88]
Morris, J. C., 1514 Spruce ['70]
Morrison, W. H., Main, Holmesburg [1888]
Morton, T. S. K., 1506 Locust ['88]
Moss, William, Main and Chestnut av, Chestnut Hill
Moulton, A. K., Pa. H'sp. for Insane
Moylan, Peter F., 1005 N. 6th
Muehleck, G. A., 1320 S. 5th
Müller, A. F., 4753 Green, G't'wn
Musser, J. H., 1917 Chestnut ['83]
Musson, Emma E., 1206 Locust
Myers, Tallyrand D., 1703 Locust
Nash, Jos. D., 1316 N. 11th [1876]
Neel, H. A. P., 3602 Washington, Tacony
Neff, Jos. S., S.W. 21st & Locust ['84]
Neilson, Thos. R., 329 S. 18th ['84]
Neuber, S. T., 1855 Frankford av
Newcomet, Wm. S., 3229 Powelton av
Nightingale, H. B., 247 N. 6th
Noble, C. P., 1637 N. Broad ['92]
Noble, W. H., 2101 N. 13th
Nock, T. O., 2507 Brown
Nolan, Edw. J., 830 N. 20th ['79]
Numbers, W. A., 2419 Brown
O'Daniel, A. Allison, 1319 Walnut
O'Farrell, G. D., 2317 E. Cumberland [1883]
O'Hara, Michael, 31 S. 16th ['74]
O'Hara, M., Jr., 125 N. 17th ['94]
Oliver, Chas. A., 1507 Locust ['83]
O'Malley, J. M., 1104 Jackson
Ott, Lambert, 1531 N. 17th
Owen, John J., 411 Pine
Packard, F. A., 110 S., 18th
Packard, John H., 1926 Spruce ['77]
Paist, Henry C., 526 N. 7th ['88]
Pancoast, J. Wm., 1611 N. 13th ['95]
Pancoast, W. H., 1100 Walnut ['67]
Pardee, Howard A., 3410 Baring
Parish, Wm. H., 1435 Spruce ['79]
Parke, Wm. E., 1739 N. 17th
Parsons, F. S., 1725 Arch
Parvin, Theoph., 1626 Spruce ['86]
Pascoe, Geo. Y., 1921 N. 8th
Pearce, F. S. 1407 Locust [1896]
Pearson, J. S., 1507 Christian
Pennebaker, Benjamin, 4862 Tacony
Penrose, Chas. B., 1331 Spruce ['88]
Pepper, Wm., 1811 Spruce ['75]
Perkins, F. M., 1428 Pine ['83]
Perrine, E. K., 1809 Chestnut
Phillips, John L., 2215 Tioga
Phillips, R. J., 4011 Chestnut ['92]
Piersol, G. A., S. E. cor. 48th and Chester av [1884]
Pilkington, H., 4238 Paul, Frankford
Porter, Wm. G., 1118 Spruce [1878]
Posey, Wm. C., 1829 Chestnut
Potsdamer, J. B., 1333 Franklin ['84]
Pottberg, C., 2147 N. 5th
Potts, Charles S., 1712 Wallace
Price, Joseph, 241 N. 18th [1888]
Price, M., 1335 Spring Garden ['88]
Radcliffe, McCluney, 711 N. 16th [1884]
Ramsay, Alex., 2847 N. Front
Randall, B. A., 1806 Chestnut ['85]
Ransley, A. W., 1222 S. 10th
Raynor, N. H., 718 S. 10th
Rea, S. L., 856 N. 19th
Reckefuss, Chas. H., Jr., 506 N. 6th
Redmond, H., 1224 Walnut
Reed, Al. G., 228 N. 12th [1883]
Reeves, J. Howard, 1507 Walnut
Regar, H. K., 1509 N. 13th [1891]

Rehfuss, Emil G., 1316 S. Broad
Reynolds, Anna M., 1534 Dauphin
Reynolds, J. P., 705 Spruce
Rhein, J. H. W., 1320 Spruce
Rhoads, Edward G., 131 W. Chelten av., Germantown [1894]
Rhoads, J. Neely, 1612 S. 7th
Richardson, Ida E., 256 S. 16th
Riesman, David, 801 N. 6th
Ring, G. Oram, 1442 N. 13th
Risley, Sam. D., 1722 Walnut ['78]
Roberts, A. S., 1902 Walnut ['84]
Roberts, J. B., 1627 Walnut [1878]
Robinson, J. W., 1316 Spruce
Robinson, Wm. D., 2012 Mt. Vernon [1896]
Rocap, W. A., Olney
Roderer, John F., 2446 N. 6th
Rosenthal, Edwin, 517 Pine [1888]
Roussel, Albert E., 2112 Pine
Rudderow, Francis, 423 S. 15th
Rugh, J. Torrance, 1431 Walnut
Runkle, W. V., 1605 Christian
Ruoff, Wm., 1318 N. 6th
Sajous, Chas. E., Paris, France ['86]
Salinger, J. L., 1510 N. 8th [1894]
Sangree, E. B., 2020 Arch
Santee, E. I., 532 N. 6th st [1874]
Schaffer, Charles, 1309 Arch
Schneideman, T. B., 215 S. 17th ['91]
Schoales, Charles B., 1428 N. 11th
Schweinitz, George E. de, 1401 Locust [1894]
Schwenk, P. N. K., 827 N. 7th ['84]
Scull, Wm. B., 3036 Richmond
Seiler, Carl, 316 S. 15th [1881]
Seiss, Ralph W., 213 S. 17th ['88]
Seltzer, C. J., 1501 Walnut ['84]
Seltzer, Chas. M., 608 N. 17th [1883]
Service, Charles A., City Line and Belmont av., Bala [1884]
Shea, Wm. Ker, 1705 N. 18th
Sheets, John, 1324 Spring Garden
Shellenberger, J. R., 5505 Main, Germantown av [1896]
Shober, J. B., 112 S. 17th
Shoemaker, George E., 3727 Chestnut [1896]
Shoemaker, J. V., 1519 Walnut ['78]
Simes, J. H. C., 2033 Chestnut ['84]
Simsohn, Joseph S., 909 Franklin
Sinexon, Justus, 827 N. 20th ['83]
Sinkler, W., 1606 Walnut [1888]
Skillern, P. G., 241 S. 13th [1876]
Skillern, Samuel R., 3509 Baring
Skilling, M. J., 1635 Christian [1886]
Slocum, H. A., 1427 Walnut [1884]
Smith, A. D., 6067 Germantown av
Smith, S. MacC., 1502 Walnut [1891]
Smock, L. P., 3330 Chestnut
Snively, I. Newton, 2501 Oxford
Somers, L. S., 3554 N. Broad
Sparks, Geo. W., 1022 Spruce
Spellissy, Jos. M., 108 S. 18th
Spivak, C. D., 629 Pine
Stahl, B. F., 1502 Arch [1894]
Steinbach, L. W., 1309 N. Broad [1884]
Stelwagon, H. W., 223 S. 17th [1884]
Stengel, Alfred, 332 S. 17th
Stern, Max J., 711 Franklin
Stevens, E. W., 1224 Walnut
Stewart, D. D., 108 S. 17th [1888]
Stewart, Wm. S., 1801 Arch ['77]
Stille, Alfred, 3900 Spruce [1862]
Stocker, A. E., 2212 Fitzwater
Stone, Edw. R., 1701 Master [1888]
Stone, James F., 1806 Green ['92]
Stout, E. J., 2422 N. Broad
Stout, Geo. C., 34 S. 18th
Strawbridge, Geo., 202 S. 15th ['76]
Strittmatter, I. P., 999 N. 6th
Strobel, John, 948 N. 5th
Strouse, Fred. M., 2220 N. Broad
Summers, S. Lewis, 309 E. Susquehanna av
Talley, F. W., 1346 Spruce
Taylor, Chas. F., 1520 Chestnut ['95]
Taylor, John J., 1520 Chestnut
Taylor, J. Mad., 1504 Pine [1888]
Taylor, Wm. J., 116 S. 18th
Taylor, Wm. L., 1340 N. 12th
Teller, Wm. H., 1934 Green
Thomas, Chas. H., 1633 Locust ['79]
Thomas, F. W., 6 Mt. Airy av., Germantown [1894]
Thomas, George P., 2121 N. 7th
Thomson, Arch. G., 1426 Walnut
Thomson, Wm., 1426 Walnut ['84]
Thorington, Jas., 120 S. 18th
Thornton, E. Quinn, 922 Spruce
Toboldt, A. L. A., 822 N. Broad
Tomlinson, H. A., Friends' Asylum, Frankford

Trautmann, B., 242 Franklin ['84]
Trojano, Giovanni, 733 S. 10th
Troth, Sam. N., 1339 N. 7th [1863]
Tull, M. G., 4807 Woodland av
Tunis, Joseph, 129 S. 18th
Turnbull, C. S., 1719 Chestnut ['79]
Turner, John B., 1525 Christian
Tussey, A. E., 1224 Walnut
Tyson, James, 1506 Spruce [1875]
Tyson, T. Mellor, 1506 Spruce
Updegrove, Silas, 804 Marshall
Vanderslice, E. S., 127 S. 5th
Vandyke, Edward B., 306 S. 10th
Van Harlingen, A., 117 S. 18th ['84]
Vanneman, W. A. R., 1531 Girard av
Vansant, E. L., 1929 Chestnut [1892]
Veasey, C. A., 47 N. 17th
Vogler, Geo. W., 565 N. 5th [1881]
Walk, Jas. W., 737 Corinthian av ['83]
Walker, Gertrude A., 125 S. 16th
Walker, Jas. B., 1617 Green [1884]
Wallace, C. H., 4600 Kingsessing av
Ward, E. Tillson, 843 S. 3d
Warder, C. B., 1212 N. Broad
Warder, Wm. H., 1212 N. Broad
Watson, Arthur W., 126 S. 18th
Watson, Edw. W., 131 N. 20th ['84]
Webb, Wm. H., 556 N. 16th ['75]
Weintraub, Sarah L., County Prison
Welch, W. M., 821 N. Broad [1870]
Wells, J. R., 5138 Lancaster av ['69]
Wells, P. F., 4023 Brown [1895]
Wells, W. H., 333 Pine
Werner, Marie B., 1514 Arch ['94]
West, John W., 1125 Wallace
Westcott, T. S., 108 N. 19th
Wetherill, H. M., 2208 Locust
Wharton, H. R., 1925 Spruce [1885]
Wheeler, E. B., 1922 Franklin
Whelen, Alfred, 1814 S. Rittenhouse Square [1884]
White, Frances Emily, 1437 N. 16th
White, J. William, 1810 S. Rittenhouse Square
Whiteside, J. E., 6603 Haverford av [1875]
Wightman, J. G., 2030 Wallace
Wiley, Eugene, 330 Reed [1884]
Wiley, Harry E., 330 Reed
Willard, DeF., 1601 Walnut ['83]
Williams, C. B., 1226 Spruce
Williams, Horace, 1717 Pine
Willits, Charles H., 24 S. 18th ['84]
Willits, I. P., 6123 Germantown av [1890]
Willits, Mary, 1705 Mt. Vernon [93]
Wilson, H. Aug., 1611 Spruce [1888]
Wilson, Jas. C., 1437 Walnut [1883]
Wilson, R., 1535 Pine
Wilson, Samuel M., 1517 Arch
Wilson, W. Reynolds, 267 S. 21st
Wirgman, Chas., 2021 Pine [1884]
Wise, George G., 420 S. Broad
Wolff, Lawrence, 333 S. 12th ['88]
Wolfe, Sam., 1701 Diamond [1892]
Wood, Alfred C., 214 S. 15th
Wood, H. C., 1925 Chestnut [1876]
Woodbury, Frank, 218 S. 16th ['80]
Woods, D. F., 1501 Spruce [1884]
Woods, Matthew, 1307 S. Broad
Woods, Walter V., 836 N. 4th
Yard, John L., 327 S. 18th ['88]
Yarrow, T. J., 1335 N. Broad ['72]
Yeager, Frank N., 2400 Oxford
Young, I. G., 1000 Shackamaxon
Young, J. K., 222 S. 16th [1888]
Zentmayer, Wm. J., 1423 Walnut
Ziegler, S. L., 1509 Walnut [1891]
Ziegler, Wm. H., 3028 Frankford av
Ziegler, W. M. L., 1418 N. 17th ['83]
Zimmerman, M. W., 1633 Chestnut
Zuill, W. L., 857 N. Broad

SCHUYLKILL COUNTY.

Officers.

President,	A. P. Carr,	St. Clair.
Vice-President,	A. F. Bronson,	Girardville.
Secretary and Treasurer,	George Little,	Tamaqua.

Stated Meetings in Pottsville (or elesewhere, as may be selected) on first Tuesday in each month.

MEMBERS.

Amick, J. H. B. (Philadelphia), ['87]
Bankes, C. W., Middleport [1888]
Bartho, B. F., Mt. Carmel (Northumberland Co.) [1895]
Beach, G. B., Gordon [1891]
Biddle, J. C., Ashland [1878]
Binkley, G. K., Orwigsburg
Birch, T. J., Port Carbon [1879]
Bland, D. W., Pottsville [1870]
Bleiler, C. A., Frackville [1891]
Bleiler, P. O., Girardville [1891]
Bowman, H. C., Mahanoy City ['94]
Brady, S. H., Lost Creek [1880]
Brendle, G. F., Mahanoy City ['74]
Bronson, A. F., Girardville [1891]
Callen, J. S., Shenandoah [1883]
Carpenter, J. S., Pottsville [1884]
Carpenter, J. T., Pottsville [1866]
Carr, A. P., St. Clair [1877]
Carr, C. D. (Philada.) [1892]
Carr, W. H., Lancaster (Lancaster Co.) [1877]
Chrisman, R. S., Pottsville [1875]
Coble, B. C. Maud, Tamaqua ['93]
Coble, J. W., Tamaqua [1894]
Dechert, D., Schuylkill Haven
Emerick, M. L., Mt. Carmel [1893]
Evans, C. W., Tremont
Farquhar, Geo. W., Pottsville
Flexer, L. A., Tamanend
Forrester, W. L. C., Girardville ['91]
Gillars, A. L., Pottsville [1892]
Gleim, G., Cornwall (Lebanon Co.)
Gray, J. C., Cressona
Gray, J. M., Ashland
Guldin, B. C., Minersville [1876]
Gwinner, J. M., Centralia
Halberstadt, A. H., Pottsville [1866]
Halberstadt, G. H., Pottsville ['79]
Hamilton, G. M., Shenandoah
Heebner, T. F., Port Carbon [1894]
Hermany, P., Mahanoy City [1874]
Hoffman, J. L., Ashland
Horan, W. F., Mahanoy City
Jones, J. A., Mahanoy City [1892]
Langton, D. J., Shenandoah [1883]
Lenker, C., Schuylkill Haven [1880]
Lewis, T., Mahanoy City [1883]
Little, George, Tamaqua [1891]
Marshall, D. S., Ashland
Matten, W. H., McKeansburg
Matter, G. F., Shenandoah
Merkle, J. E. Cressona
Millard, B. J., Centralia
Miller, C. D., Pottsville [1888]
Montelius, R. W., Mt. Carmel (Northumberland Co.) [1884]
O'Hara, P. H., Pottsville
Phillips, E. F. Tower City [1884]
Reagen, G. L., Berwick (Columbia Co.) [1870]
Reber, Wendell, Pottsville [1896]
Rentschler, H. D., Ringtown ['78]
Rickert, C. M., Tower City
Riley, John D., Mahanoy City
Robbins, Clifton, Shenandoah
Roberts, J. P., Shenandoah
Robinhold, L. C., Port Clinton
Samuel, W. C., Gilberton
Samuel, E. W., Mt. Carmel (Northumberland Co.) [1883]
Seibert, A. A., Pottsville
Seyfert, S. J., Harrisburg [1894]
Sherman, A. B., Mahanoy City
Sherman, H. W., Mahanoy City
Smith, W. C. J., St. Clair [1879]
Spalding, S. C., Shenandoah [1876]
Speer, O. K., Tamaqua
Stein, W. N., Shenandoah
Swaving, J. G. C., Pottsville [1884]
Swaving, J. H., Pottsville [1891]
Swayze, M. Alice, Pottsville [1877]
Taggart, D., Frackville [1881]
Weber, Louis, Mahanoy City [1883]
Williams, W. T., Mt. Carmel (Northumberland Co.) [1891]

SNYDER COUNTY.

OFFICERS.

President,	A. M. Smith,	Beaver Springs.
Vice-President,	J. F. Kenawell,	Penns Creek.
Secretary and Treasurer,	J. O. Wagner,	Beaver Springs.

MEMBERS.

Kenawell, J. F., Penns Creek
Miller, E. M., Beavertown
Nipple, H. M., Selinsgrove
Smith, A. M., Beaver Springs
Smith, D. G., Freeburg
Strohecker, J. T., Beavertown
Wagner, J. O., Beaver Springs
Wolf, L. E., Beavertown

SOMERSET COUNTY.

OFFICERS.

President,	W. S. Kuhlman,	Ursina.
Vice-President,	E. M. Kimmel,	Somerset.
Secretary,	H. C. McKinley,	Meyersdale.
Treasurer,	W. S. Mountain,	Confluence.

Stated Meetings at Rockwood on second Tuesday of January, April, July and October.

MEMBERS.

Beachly, U. M., Meyersdale
Bruner, H. B., Rockwood
Fichtner, B. A., Confluence
Gardner, J. H., Stoystown
Gardner, W. H., Glade
Garey, Henry, Berlin [1892]
Gerhard, M. U., Harrisburg (Dauphin Co.)
Getty, O. G., Meyersdale
Gildner, David, Rockwood
Good, S. S., Meyersdale [1890]
Harrison, A. C., Meyersdale
Kimmel, Ed. M., Somerset
Kimmel, H. S., Somerset
Kuhlman, W. S., Ursina [1890]
Lichty, A. M., Elk Lick
Masters, G. B., Rockwood
McKinley, H. C., Meyersdale
Meyers, W. H., Meyersdale
Mitchell, W. F., Addison
Moore, H. D., New Lexington
Mountain, W. S., Confluence
Pollard, R. T., Garrett
Reidt, H. C., New Baltimore
Shaw, W. R., Berlin
Speicher, A. F., Elk Lick [1892]
Swank, Peter, Davidsville
Tannehill, M. Confluence

SUSQUEHANNA COUNTY.

OFFICERS.

President,	A. E. Snyder,	New Milford.
Vice-President,	H. T. Dunbar,	Harford.
Secretary,	C. C. Halsey,	Montrose.
Treasurer,	E. R. Gardner,	"

Annual Meeting at Montrose on first Tuesday of May, other meetings first Tuesdays of August, October and February, at places designated at previous meetings.

MEMBERS.

Ainey, A. J., Brooklyn [1894]
Beaumont, W. B., West Auburn
Benson, E. S., Jackson
Birdsall, S., Susquehanna [1869]
Blakeslee, W. R., Forest City
Boyle, J. J., Susquehanna
Brundage, A. T., Harford [1873]
Caterson, C. W., Franklin Forks

Chamberlain, A., Brooklyn [1885]
Dunbar, H. T., Harford [1894]
Engle, S. J., Susquehanna
Gardner, E. R., Montrose [1896]
Grander, F. L., Forest City
Grattan, F. E., Springville
Halsey, C. C., Montrose [1862]
Harrison, G. M., Auburn Centre
Hines, E. P., Great Bend
Johnston, C. A., Hop Bottom
Lamb, F. D., Hallstead [1885]
Lathrop, H. B., Springville [1894]
Miller, M. L., Lanesboro
Newton, C. R., Montrose
Peck, D. J., Susquehanna [1893]
Pickard, H. S., Lynn [1896]
Richardson, W. L., Montrose [1884]
Skelly, L, P., Susquehanna
Snyder, A. E., New Milford [1896]
Taylor, A. J., Hop Bottom
Vanness, C. N., Hallstead
Wheeler, E. S., Nicholson (Wyoming Co.)
Wilmot, E. F., Great Bend [1875]
Wilson, John G., Montrose

TIOGA COUNTY.

Officers.

President,	A. L. Bottom,	Westfield.
Vice-President,	L. N. Cloos,	Keeneyville.
Secretary,	A. L. Darling,	Lawrenceville.
Treasurer,	C. W. Webb,	Wellsboro.

Members.

Bacon, M. L., Wellsboro
Beers, J. L., Holliday
Bosworth, C. H., Osceola
Bottom, A, L., Westfield
Caldwell, H. E., Morris Run
Clark, E. E., Osceola
Cloos, L. N., Keeneyville
Crandall, Geo., Blossburg
Darling, A. L., Lawrenceville
Frisby, H. Z., Elkland
Gaskill, S. A., Covington
Gentry, J. M., Stony Fork
Greenfield, A. M., Sabinsville
Hakes, S. P., Tioga
Humphrey, W. G., Elkland
Kibbie, A., Knoxville
Kunkle, A. T., Westfield
Loop, A. M. Nelson
Nye, Oren S., Rutland
Robbins, A. M., Covington
Smith, J. B., Lawrenceville
Smith, R. B., Tioga
Stevens, W. B., Nelson
Vedder, W. D., Mansfield
Webb, C. W., Wellsboro
White, J. H., Little Marsh
Williams, Chas. N., Wellsboro

VENANGO COUNTY.

Officers.

President,	John F. Davis,	Oil City.
Vice-President,	J. P. Strayer,	"
Secretary,	E. W. Moore,	Franklin.
Treasurer,	C. W. Coulter,	Oil City.

Stated Meetings Bi-Monthly. The regular meetings at Oil City and Franklin; two meetings each year are "outings," and are held at Tionesta, Emlenton, Cooperstown or Titusville.

Members.

Arters, J. D., Oil City [1888]
Barr, G. W., Titusville [1867]
Bredin, S., Franklin
Cookson, C. K., Oil City
Coope, A. F., Oil City [1882]
Coulter, C. W., Oil City [1890]
Crawford, J. K., Cooperstown
Davis, F. F,, Oil City [1870]

Davis, John F., Oil City
Dickey, G. C., Oil City
Dille, G. W., Cooperstown
Dunkle, E. L., Oil City
Forster, Wm., Oil City
Gilmore, W. G., Clintonville
Glenn, J. B., Franklin
Hamilton, B. F., Emlenton
Johnson, W. G., Titusville
Kerr, C. S., Emlenton
Magee, G. W., Oil City
Magee, J. E., Seneca
McClelland, F. M., Utica
McCulloch, T. C., Oil City [1882]
McKinley, W. F., Polk
Moore, E. W., Franklin [1882]
Morrow, J.W., Tionesta (Forest Co.) [1890]
Nicholson, W. A., Franklin [1890]
Ritchey, J. A., Oil City [1874]
Seip, G. W., Oil City
Siggins, J. B., Oil City
Smith, D. H., Polk
Strayer, J. P., Oil City [1896]
Taylor, J. E., Rockland
Varian, Wm., Titusville [1870]
Waid, J. M., Titusville
Webber, H., East Hickory
Whann, W. L., Franklin [1870]

WARREN COUNTY.

Officers.

President,	E. J. Cowden,	North Warren.
Vice-Presidents,	E. J. Kelley,	Chandler Valley.
	C. M. Strickler,	Warren.
Recording Secretary,	F. W. Whitcomb,	"
Corresponding Secretary,	W. V. Hazeltine,	"
Treasurer,	John Curwen,	"

Stated Meetings at State Hospital for Insane, at Warren, on the first Tuesday after the second Monday of January, April, July and October.

Members.

Baker, Willis M., Warren [1894]
Brown, Otis S., Russell
Cowden, E. J., North Warren
Curwen, John, Warren [1866]
Frantz, C. J., Warren
Gass, James, Sheffield
Guth, M. S., Warrren [1889]
Hamilton, J. W., North Clarendon
Hay, W. H., Youngsville
Hazeltine, W. V., Warren [1893]
Hepburn, John, Warren
Kelley, E. J., Chandler's Valley
Kemble, Chas., Tidioute
Kerr, M. C., Grand Valley
Kibler, Chas. B., Corry (Erie Co.)
Knapp, J. J., Kinzua
Magill, A. C., Tidioute
McKee, E. D., Spring Creek
Noeson, F. S., Bear Lake
Robertson, W. M., Warren
Seabury, W. W., Sugar Grove
Stewart, Richard B., Warren
Strickler, Chas. M., Warren [1896]
Whitcomb, Frank W., Warren

WASHINGTON COUNTY.

Officers.

President,	B. A. Emory,	Dunningsville.
Vice-President,	W. T. Mitchell,	Allenport.
Secretary,	J. A. McKean,	Washington.
Treasurer,	W. R. Thompson,	"

Stated Meetings at Washington on second Tuesday of May and November, and a special meeting in August.

MEMBERS.

Acheson, H. M., Washington
Alexander, W. H., Canonsburg ['88]
Blachley, S. L., Wilkinsburg ['68]
Botkins, L. C., Burgettstown [1888]
Braden, L. W., Ten Mile
Bryant, W. C., Finleyville
Campbell, Chas., Hickory [1890]
Dickson, W. R., Amity
Dodd, C. T., Van Buren
Dodd, W. L., Amity
Donaldson, J. B., Canonsburg [1877]
Donehoo, J. F., Washington
Emory, B. A., Dunningsville [1881]
Farquhar, Q. C., East Bethlehem ['82]
Grayson, Wray, Washington [1890]
Hayes, F. M., Cross Creek
Irwin, J. B., Washington
Jamison, W. A., McDonald [1895]
Kelly, G. M., Washington
Lacock, S. A., Canonsburg [1890]
LaRoss, Wm. A., McDonald
Lindley, C. M., Zollarsville
Linn, G. A., Monongahela City
Martin, W. D., Sparta [1896]
McDonough, H. H., Claysville ['81]
McElroy, Jos., Hickory [1876]
McKean, J. A., Washington [1878]
Mitchell, W. T., Allenport [1890]
Murry, U. B., Amity [1890]
Patterson, J. A., Washington [1881]
Riddle, W. V., Burgettstown [1890]
Runion, A. L., Canonsburg [1891]
Sloan, J. G., Monongahela City ['79]
Snodgrass, H. L., Buffaloville ['84]
Sproulls, J. N., Claysville [1890]
Sproulls, W. W., Houstonville
Streator, A. C., Washington
Teagarden, W. D., Washington ['90]
Thompson, W. R., Washington ['78]
Wolf, R. W., Taylorstown
Wood, C. B., Monongahela City ['80]
Wooes, G. B., Washington [1888]

WESTMORELAND COUNTY.

OFFICERS.

President,	E. K. Strawn,	Madison.
Vice-Presidents,	E. B. Marsh,	Greensburg.
	E. M. Clifford,	"
Secretary,	F. L. Portzer,	"
Treasurer,	J. B. Wakefield,	Grapeville.

Stated Meetings are held at Greensburg, at 10 A. M., the first Tuesday of February, second Tuesday of May, last Tuesday of August, and second Tuesday of November. The May and August meetings may be held elsewhere by vote of the Society. Special conversational meetings are held about four times a year at other places.

MEMBERS.

Ambrose, J. F., Ligomier
Brown, J. Logan, Pleasant Unity
Clifford, E. M., Greensburg
Cline, James C., Derry Station ['90]
Connor, R. E., New Florence ['96]
Cole, T. P., Greensburg
Cook, J. L., New Alexandria
Fetters, W. H., Scottdale
Goodman, Charlotte E., Denver, Colo. [1894]
Hammer, Robert B., Greensburg [1894]
Hughes, J. W., Latrobe [1890]
Hutton, D. T., Smithton
Johnson, W. W., Greensburg
Kamerer, J. W. B., Greensburg ['76]
Kline, W. J. K., Greensburg ['76]
Klingensmith, T. A., Jeanette
Kneedler, G. C., Ruffsdale
Long, J. S., Circleville

Marsh, E. B., Greensburg
Marsh, F. L., Mt. Pleasant [1887]
McClelland, R. P., Irwin [1893]
McConaughy, D. W., Latrobe ['67]
McDowell, W. J., Scottdale
McLain, A. L., Irwin
Meanor, W. C., Greensburg
Milligan, J. D., Greensburg
Morrow, J. W., Jeanette
Plottner, W. S., Mt. Pleasant
Portzer, F. L., Greensburg [1896]
Ringer, J. H., Jeanette
Robinson, J. Q., West Newton ['84]
Robinson, J. Q., Jr., West Newton
Sell, Jacob, Greensburg
Shirey, C. A., Manor
Sowash, M. F., Irwin
Strawn, E. K., Madison
Strickler, A. H., Scottdale [1884]
Taylor, Chas., Irwin
Thomas, L. C., Latrobe [1895]
Van Dyke, G. R., West Newton
Van Kirk, B. F., West Newten
Wakefield, J. B., Grapeville [1892]

YORK COUNTY.

Officers.

President,	G. E. Holtzapple,	Seven Valley.
Vice-Presidents,	W. C. Stick,	Glenville.
	S. J. Rouse,	York.
Secretary,	Roland Jessop,	"
Treasurer,	I. C. Gable,	"

Stated Meetings in York, 7 E. Market Street, the first Tuesday in each month.

Members.

Bacon, W. F., York [1892]
Bahn, G. W., Spring Grove [1888]
Betz, G. H., York [1896]
Bigler, W. B., Dallastown
Brodbeck, J. R., Jefferson
Bucher, F. C., Wrightsville
Channell, J. C., Wrightsville ['93]
Decker, J. M., Okete
Deisinger, J., York [1877]
Dice, Laura J., York [1896]
Falkenstein, A. N., Glen Rock
Gable, I. C., York [1881]
Galbreath, J. T., Hellam
Gotwald, D. K., Springfield, O. [84]
Hetrick, J. S., New Freedom
Hildebrand, R. A., Glen Rock
Holtzapple, G. E., York ['83]
Holtzapple, M. H., York
Hubley, B. F., York [1894]
Hyson, J. M., Red Lion [1881]
Jessop, Roland, York [1893]
King, H. B., York
Klinedinst, J. F., York [1896]
Lecrone, H. R., York
Lochman, M. L., York [1881]
Mann, Jos. D., Dallastown
Martin J. D., Stewartstown
May, J. C., Manchester [1892]
McCurdy, W. H., Delta
Melshimer, J. A., Hanover
Miller, C. F., Muddy Creek Forks
Murphy, J. C., York Haven [1896]
Pfaltzgraff, A. K., York
Rea, Chas., York
Roland, W. S., York [1876]
Rouse, S. J., York [1881]
Saltzgiver, S. K., York
Shearer, N. H., York
Shirey, B. W., East Prospect
Small, J. Frank, York [1894]
Stem, J. C., Lewisberry
Stick, Wesley C., Glenville [1895]
Stone, Geo. E., New Freedom
Stoner, J. A., York
Wagner, W. H., York [1896]
Wallace, N. C., Dover
Webb, Wm. E., York [1896]
Wentz, A. C., Hanover [1894]
Zech, L. E., New Salem

INDEX.

ABORTION, 394, 405
Abscess, 302, 303
Addison's disease, 165
Address, annual, 361, 423
in hygiene, 18, 32, 62
in laryngology, 423
in medicine, 82, 101, 409
in mental disorders, 13, 32, 45, 414
in obstetrics, 21, 32, 93, 409
in ophthalmology, 32, 423
in otology, 423
of welcome, 1
in surgery, 18, 32, 54, 409
of President, 37, 381
Addresses, 6, 13, 416, 423
Adenoid, 151
Adjournment, 32
Adler, L. H., Jr., 22, 332
Advertisements, 26
Alcoholic stimulants, 13, 18, 50, 124, 144
Alexander, G. F., 377
Allegheny County Society, 366, 445
Alter, M. H., 366
Amblyopia, 320
Amendments, 5, 6, 14, 23, 382, 383, 384, 388, 395, 433
American Medical Association, xiv, 20
Anatomy Act, 422
Anders, J. M., 18, 19, 21, 22, 180
Anderson, Wm., 369, 442
Aneurism, 105
Annual address, 381
Annual meeting, 1, 14
Antidotes, 156
Antisepsis, 13
Antitoxin, 104
Appendicitis, 54
Appointments, 17, 32
Armstrong County Society, 366, 450
Arrangements, Committee on, 1, 7, 21, 24, 31, 394, 398
Arterial tension, 285
Arterio-sclerosis, 292
Asepsis, 163
Assessments, 3, 15, 380
Assistant Secretary, 1, 19
Associates, 380
Asthenia, 167
Ataxia, Locomotor, 176
Atkinson, Wm. B., 1, 2, 17, 19, 31, 32, 379
Auditing Committee, 2, 6, 15
Auto-intoxication, 22, 47
Ayers, S., 20, 22

BACILLUS, 110
Bacon, W. F., 19
Bacteria, 63, 219
Baldy, J. M., 18, 32, 139
Ball, C. P., 19
Balmer, A. F., 20
Barclay, Wm. F., 22
Bartleson, S. P., 19
Batten, J. M., 14, 29
Beach, Wm., 26, 251

Beane, G. W., 372
Beates, H. F., 26, 29, 259
Beaver County Society, 450
Bedford County Society, 2, 451
Bell, G. F., 20
Bell, S. D., 20
Beneficiary fund, 382, 383
Berks County Society, 27, 451
Bills, 3, 6
Bishop, W. T., 1, 2, 11, 14, 16, 23, 25, 26, 27, 28, 31
Blair County Society, 452
Blood of the Insane, 22, 205
Board of Charities, 43
Board of Examiners, 4, 19, 434
Board of Health, 414, 415, 418, 426
Board of Trustees, v, 19
Borland, E. B., 11, 13, 18, 22, 25, 31, 32, 109
Bower, C. L., 16
Bradford County Society, 9, 453
Brain injuries, 227
Brenholtz, W. S., 272
Brock, R. E., 19
Brown-Sequard treatment, 166, 178
Brubaker, A. P., 32
Brumbaugh, A. B., 1, 2
Brumbaugh, G. M., 11
Buchanan, J. J., 11, 12, 18, 54
Bucks County Society, 454
Business methods, 15
Butler County Society, 454
By-Laws, 6, 14, 15, 21, 380, 433

CAMBRIA COUNTY SOCIETY, 455
Carbon County Society, 455
Carcinoma, 18, 149, 311
Cases, 25, 231, 366, 367
Catalogue, Index, 415
Catarrh, 31, 158
Catarrhal deafness, 31, 296
Catarrh, nasal, 158
Censors, 22, 380, 412
Centre County Society, 456
Cerebral concussion and compression, 29, 227
Chairman of Committees, v, 13, 17, 19, 21, 32
Charter, 405, 431, 433
Chester County Society, 456
Cholera infantum, 158
Chorea, 151
Choroiditis, 232
Christie, J. H., 366
Chritzman, H. G., 18
Clagett, L. S., 372
Clarion County Society, 457
Clearfield County Society, 458
Cleaver, I., 21, 26, 27, 93
Clinical instruction, 381
Clinical research, 429
Clinton County Society, 458
Code of Ethics, 6, 24, 30, 380, 385, 407, 419, 421, 436, 437
Cold bath, 123, 304
Collusion, 383
Colony, epileptic, 437
Color fields, 319
Columbia County Society, 459
Committee, auditing, 2, 6, 15
on arrangements, 1, 7, 21, 23, 31, 394, 398
on business methods, 15
on increase of membership and extension of polyclinic teaching, 8
on legislation, 9, 27
on nominations, 12, 19
on pharmacy, 6, 32
on publication, 4, 14, 31, 384, 419

on Rush monument, 12, 17
on scientific business, 5, 16, 17, 435
Committees, 26, 422
Communications, 10
Compton, W., 373
Concussion, 228
Confidential communications, 10
Congress, International Medical, 429
Conservatism, 65
Constipation, 334
Constitution, 380, 382, 430, 431
Constitution of the Society, 430
Consumption, 70, 145, 194
Contagious diseases, 12, 40, 112 352
Contagion, 66, 72, 86
Contents, iii
Copyrighted, 6
Corson, Hiram, 26, 380, 442
Council, judicial, 16, 19
County societies, 3, 8, 366, 379, 380, 389, 397, 445
Craig, Alex., 11, 16, 18
Crawford County Society, 459
Crawford, D. M., 20
Crime, 51
Cripples, 361
Croup, 238
Cumberland County Society, 340, 460
Curwen, John, 19, 23

DALAND, J., 26, 29
Dauphin County Society, 2, 31, 460
Davis, A. C., 18
Davis, F. F.,
Davis, Rees, 442
Davis, T. D., 9, 14, 21, 23, 26, 27, 31, 135
Deafness, 29, 31, 234, 263, 296
Deemer, J. T., 369
Deformities, 361
Delaware County Society, 461
Delegates, 20, 380, 386
Delirium, 255
Delirium tremens, 146
Dementia, 209
Dennis, D. N., 20
Department, pathological, 384
Detwiler, F. C., 30
Diarrhea, 355
Diehl, L., 33
Digitaline, 189
Digitalis, 30, 259, 285
Digitine, 26, 259
Diller, T., 32
Diphtheria, 25, 103, 345
Diploma, medical, 405
Disclaimer, ii, 386
Discussions 6, 416
Disease, 165, 263, 335, 336, 357
Diseases of Women, 26
Diuretic, 285
Donaldson, J. B., 8, 20, 22
Drug stores, 407
Dunmire, G. B., 1, 3, 14, 19
Dunn, H. J., 18
Dysentery, 356

EAR, 25, 29, 234, 263, 266, 296
Ear discharge, 264
Ear disease, 231, 263, 264, 296
Eclampsia, 96
Eclectics, 44
Ectopic-gestation, 97
Education, medical, 428
preliminary, 381, 392, 410
Ehler, J. A., 382
Electric illumination, 118
Electricity, 26, 98
Elk County Society, 462
Encephalon, 25, 227
Endocarditis, 302
England, J. W., 34
English, W. T., 30, 285

Entertainments 394, 397, 405, 408
Epiglottis, 151
Epistaxis, 301
Erdman, W. B., 19
Erie County Society, 2, 462
Eruptive Fevers, 158
Essay, prize, 401
Ethics, 383, 420, 428
code of, 6, 24, 30, 380, 385, 407, 419, 421, 436, 437
Examination of blood, 206
Examiners, 419, 434
Examining boards, 419, 434
Exercise, 20, 281
Excursion, 389, 390, 392, 403, 413, 414
Expenses, 3, 15
Ex-Presidents, 23, 443
Extension teaching, 8
External Hemorrhoids, 22, 332
Ewing, J. B., 20
Eye, 25, 231
Eye-strain, 307

FACT, AND THEORY, 62
Factor, the antiseptic, 114
Fallopian tube, 139
Fayette County Society, 463
Female physicians, 13
Fevers, eruptive, 158
Fibroids, 25, 222
Field of vision, 319
Fistula-in-ano, 251
Flick, L. F., 18, 22
Forceps, 94
Former Presidents, 380, 443
Formulary, 7, 33
Foster, W. S., 1, 32, 37
Fractures, 57, 228
Franklin, C. M., 13, 45
Franklin County Society, 463
Frantz, H. C., 18, 19, 21
Free, 397, 400
Fullerton, Anna M., 22, 213
Fulton, J., 12, 18, 19, 23, 52, 144
Funds, 380, 382, 383, 429

GABLE, I. C., 11, 12
Garver, J. K., 14
Gelsemium, 18, 154
General paresis, 293
Gestation, 97
Governor Hastings, 1, 21, 31
Greene County Society, 464
Greene, E. M., 19
Greetings, 17
Groff, J. W., 18
Guiacol, 20, 119, 122, 180
Guilford, W. M., 19
Guthrie, G. W., 19

HAKES, H., 377
Halberstadt, A. H., 18
Halsey, C. C., 20
Hamaker, W. D., 20
Hare, H. A., 18, 19
Harris, G. F., 20
Harrisburg, 1, 31
Harrison, W. H., 22, 205
Harshberger, A. H., 20
Hazeltine, W. B., 20
Headaches 104, 157
Heart, 30, 271, 336
Heart Disease, 271, 286, 336
Heart Murmurs, 271
Heinitsh, S. W., 34
Hemophilia, 317
Hemorrhage, 60
Henderson, J. L., 20
Hepatic abscess, 303
Hereditary, 194
Histories, topographical, 386
History, 32, 379, 385, 389
Hollopeter, W. C., 22, 216
Holmes, E. W., 29, 30
Hooke, B. P., 19
Hospital, 23, 24, 39, 45, 399, 407
Hospitals for the insane, 399, 400,

402, 410, 414, 416, 430, 434
Hughes, W. E., 32
Hull, A. P., 1, 26
Hunsberger, J. N., 8
Huntingdon County Society, 464
Hygiene, 198, 202
Hygiene, address in, 22, 32, 62, 198
Hyperpyrexia, 304
Hysterectomy, 162, 215, 221

ILLINOIS STATE SOCIETY, 17
Improved hearing, 263, 296
Incorporation, 431, 432
Increase of membership, 8, 14, 132
Indiana County Society, 369, 465
Infantile paralysis, 361
Infection, 109
Infectious diseases, 12, 112
Influenza, 26, 103, 255, 402, 403, 423, 427
Injuries, 231
Insane, 10, 22, 23, 27, 29, 45, 205, 290, 399, 400, 402, 410, 414, 416, 430, 434
Insane, hospitals for the, 31, 399, 400, 402, 410, 414, 416, 430, 434
Insanity, 29, 48, 52, 256
Instruction, clinical, 381
Instruction of the deaf, 411, 413
International Medical Congress, 429
Intoxicants, 124, 144, 409
Intra-tympanic disease, 263, 296
Intubation, 25, 238
Iris, 30, 290
reflex, 290
Irritable uterus of pregnancy, 14, 135
Irwin, C., 20

JACKSON, EDW., vi, 5, 19
Jackson, S., 382, 388
Jefferson County Society, 465
Jefferson Medical College Hospital, 28, 30
Jessop, Roland, 18
Johnstown flood, 430
Journal, 4, 14, 26, 133
Journal of the American Medical Association, xiv
Judicial Council, v, 15, 19, 28, 29, 31, 420
Juniata County Society, 2, 466

KANE, E. O., 18, 22, 194
Keiser, J. O., 27
Kelly, A. O. J., 30, 271
Kline, L. B., 20, 358
Klingensmith, I. P., 372
Knee-jerk, 290
Koenig, A., 6, 14, 19, 23, 24
Koons, W. F., 19

LACKAWANNA COUNTY Society, 466
Lancaster County Society, 372, 379, 467
Lange, J. C., 11, 12, 14, 114
Laparatomy, 160, 221
LaPlace, E., 22, 29
Laryngeal diphtheria, 25, 238
Laryngology, address in, 423
Lautenbach, L. J., 25, 26, 28, 29
Laws, lunacy, 423
Lebanon County Society, 468
Lee, B., 19
Legislation, 9, 12, 27, 40, 384, 396, 404, 410, 414, 423, 428, 436, 438
Lehigh County Society, 469
LeMoyne, F., 5, 6, 11, 12, 13, 17, 18, 25, 23, 32
Library, 31
Lichty, H. M., 20
Liquors, intoxicating, 401
List of former Presidents, 443
members present, viii

officers and members of county societies, 445
officers and standing committees, v
Liver disease, 335
Livingston, T. M., 19, 25
Locomotor ataxia, 176
Lowman, W. B., 11, 18
Lunacy laws, 423
Lutz, Wm. L., 19
Luzerne County Society, 374, 469
Lycoming County Society, 470

MAKUEN, G. H., 18, 149
Malarial, 157
Malarial parasites, 29
Malpractice, 234, 410
Managers, 24
Marston, M., 20
Maryland Medical Society, Delegates to, 20
Massage, aural, 263
Massey, G. B., 18, 22, 23, 25, 26, 27
Mastoid disease, 263
McCandless, J. G., 30
McConnell, H. S., 11, 12, 13, 16, 23, 25, 27, 29, 30, 31, 118
McCormick, H. G., 14, 18, 19, 21, 23
McGowan, H., 18, 19
McKean County Society, 472
McKee, R. N., 369
McKennan, T., 377
McMullen, J., 372
Medical Congress, International, 429
diploma, 405
education, 428
examiners, 32, 416
legislation, 40
organizations, 2, 379
registration, 340
schools, 428
societies, 379, 380, 389
Medicine, address in, 32, 101, 409
Medicines, proprietary, 428
Medico-legal, 25, 231
Meetings, 380
Meisse, K. De W., 8
Melancholia, 208
Membership, 8, 14, 132
Members, permanent, 396
Memorial page, 26, 442
Meningitis, 230
Mental disorders, address in, 13, 32, 45, 414
Mental hygiene, 202
Mercer County Society, 472
Metric system, 417
Microbes, 73, 103
Middleton, W. J., 29, 30
Mifflin County Society, 473
Milk, 109, 216
filtration, 22, 102
sterilization, 216
Miller, A. M., 372
Miller, J. A., 2, 24, 34
Minich, A. K., 101
Minutes, 1, 379
Monks, F. C., 369
Montgomery County Society, 473
Montgomery, E. E., 18, 19, 30, 60
Montgomery, J., 1, 18, 19, 24
Montour County Society, 474
Monument, Rush, 17
Moore, J. W., 18, 32, 62
Mulhaupt, A., 20
Munn, W. P., 343
Murdoch, F. H., 22
Murmurs, 30
Murphy, J. A., 379
Murray, J. M., 18
Museum, 31
Myalgia, 181

NASAL DISEASE, 279
Septum, 189
Nead, D. W., 19
Nervous diseases, 106, 255
maladies, 168
Neuralgia, 157, 181, 233, 316, 358
Neurasthenia, 176
Neuritis, 257
Newbaker, P. C., 20
New remedies, 7
Noble, C. P., 18, 22, 25
Nominations, 12, 16, 19
Northampton County Society, 474
Northumberland County Society, 475
Nostrums, 437

OBITUARY NOTICES, 367
Obstetrics, address in, 21, 32, 93, 409
Ocular disease, 231, 290
Officers, v, 1, 19, 380, 383
Ophthalmology, address in, 32
Ophthalmoscopic examination, 232
Organization, 2, 9, 134, 348, 379, 399
Organo-therapy, 165
Orth, H. L., 1, 24
Otitis-media, 233
Otology, address in, 425
Oto-massage, 263
Ovariotomy, 214
Overfeeding, 120

PACKARD, J. H., 19, 26
Pain, 135
Pan-American Congress, 20
Pancoast, W. H., 30, 31
Papers, 6, 31, 392, 398, 416, 418, 425, 427
Paralysis, 257, 361
agitans, 176
Paralytic cripples, 361
Parcels, W. H., 18, 25, 227
Paresis, 221, 295
Park, J. W., 25, 231
Parturition, 204
Passes, 379, 400
Patellar, 30, 290
Pathological department, 384
Pearce, F. S., 21, 22, 165
Pelvic disease, 18, 139, 160, 213
inflammation, 139
peritonitis, 18, 139
Pennsylvania Medical Society, 379
Pennsylvania Pharmaceutical Association, 439
Perforation, 22, 189, 303
Periosteitis, 305
Peritonitis, 18, 139, 304
Permanent members, vii, 376
Perry County Society, 476
Pharmaceutical Association, 2, 7, 8, 24, 33, 425, 428, 435, 439
Pharmacopeia, 7, 390
Pharmacy, Committee on, 6, 32
Pharynx, 151, 297
Philadelphia County Society, 476
Phono-massage, 29, 263
Phthisis, 70, 145, 194
Physicians, female, 399, 401, 407, 409, 431, 434
Piles, 332
Pittsburg, 21
Placenta previa, 96
Place of meeting, 36
Plaster of Paris, 59
Pleurisy, 302
Pneumo-massage, 29, 283
Pneumonia, 130, 180, 302
Politzeration, 298
Polyclinic teaching, 8
Portzer, F. L., 18
Pregnancy, 14, 22, 135, 198
Preparations, secret, 434
President, 1, 19, 37
President's address, 37, 381
Presidents, list of the, 443

Prevention of tuberculosis, 109
Prismatic perimeter, 319
Prize essay, 401
Proceedings, 1, 403
Profession, 37
Program, 1, 32, 391, 392, 422, 429, 431
Proprietary medicines, 6, 34, 428
Publication Committee, 4, 14, 31, 384, 419
Public Health, 41, 414, 415
Puerperal eclampsia, 96
Pulmonary consumption, 70, 145, 194

RAHTER, C. A., 14, 25
Randall, B. Alex., 31, 296
Reber, Wendell, 30, 290
Rectal fistula, 26, 251
Reed, J. A. E., 372
Reflex, 30, 290
Regar, H. K., 16, 26, 255
Registration, 405, 422
Relations, 37
Remedies, 7
Removal of uterus, 164
Reports, 389
Reports of Committees, 4, 5, 6, 8, 9, 15
of County Medical Societies, 36, 397, 445
of Treasurer, 2
Representation, 382
Research, clinical, 429
Resolutions, 6, 12, 23, 24, 25, 26, 27, 28, 31
Rheumatism, 157, 183, 274
Rhoads, M. A., 19
Richty, J. E., 20
Riggs, E. S., 11
Roberts, J. B., 14, 15, 16, 21
Roebuck, J. H., 23
Roop, J. W., 18, 154
Rosenthal, E., 25, 238
Rules, 5, 416, 420, 422
Rush monument, 12, 17, 429

SALARIES, 15
Salol, 119, 355
Salt solution, 60
Sanitary, 41
reforms, 343
science, 41
Saylor-Brown, Jean, 307
Scarlatina, 88
Scarlet fever, 89
Schuylkill County Society, 483
Sciatica, 358
Scientific business, 5, 15, 17, 435
induction, 65
Sclerosis, 176, 292
Scotomata, 319
Scrofula, 196
Secretary, 32, 403
Section, abdominal,
Seiler, Carl, 22, 189
Serum treatment, 25, 238
Sequels of typhoid fever, 301
Sewage, 350
Shallenberger, H. M., 20
Shaw, Chas. S., v, 8, 19
Sheets, J. W., 18
Shields, W. L., 18
Shock, 147
Shoemaker, G. E., 18, 22, 25, 221
Short, R. N., 18
Sibbet, R. Lowry, 24, 25, 340
Sick headache, 104
Simpson, T. P., 11, 18, 23, 32, 124
Skull, 228
Small-pox, 41, 382, 384
Smith, A. M., 19
Smith, L. H., 18
Societies, 2, 8, 17, 21, 32, 379, 380, 389
Solly, C. E., 22
Somerset County Society, 485

Spastic palsies, 361
Specialism, 102, 400
Speech defects, 18, 149
Splints, 53
State Board of Examiners, 404, 425, 426, 436, 437
Board of Health, 41, 414, 415, 418, 422, 426
hospitals, 10, 27
Statistics, 384, 440
Stenographer, 31
Stevens, C. L., 1, 9, 14, 18, 19, 21
Stevenson, J. M., 366
Stever, J. C., 20,
Stewart, R. W., 22, 185
Stillé, A., 380
Stimulants, 14
Stores, drug, 407
Straight, A. M., 20
Strickler, C. M., 18
Supply, water, 350
Suppuration of ear, 263
Supra-pubic cystotomy, 22, 185
Surgery, address in, 32, 54, 409
Susquehanna County Society, 485
Syphilis, 196, 293

TABES, 290
Tables, 344
Taggart, D., 8
Tenotomy, 30
Testicular fluid injections, 165
Testimony, 10
Tetanus, 104
Thanks, 31
Theory, 62, 72
Thomas, C. H., 35
Thornton, E. Q., 32
Throckmorton, W. S., 22
Thyroid, 165
Time limit, 5, 23
Time of meeting, 21, 23, 412
Tioga County Society, 2, 486
Tongue, 150
Topographical histories, 486
Towler, S. S., 6, 11, 14, 18, 23, 25, 26, 132
Transactions, 14, 16, 391, 402, 409, 411, 428, 431
Traumatic lesions, 227
Treasurer, 1, 15
Treatment, 166, 178, 238
Treatment of typhoid fever, 114
Troxell, J. S., 20
Trustees, 14, 15
Tubal disease, 161
Tube, 139
Tubercle bacillus, 110, 194
Tuberculosis, 13, 24, 64, 67, 86, 109, 181, 194
Tumor, fibroid, 221
Typhoid fever, 14, 41, 104, 114, 118, 124, 145, 180, 301, 344
Tyson, James, 22

ULRICH, W. B., 18, 26
Uterine, 164
Uterus, 14, 135

VACCINATION, 382, 385, 387, 389, 390, 395, 409
Vaginal incision, 180
Valvular disease, 260, 271
Van Valzah, F. H., 18, 19, 21
Vedder, W. C., 20
Venango County Society, 486
Ventilation, 112
Veratum viride, 14, 129
Vice-Presidents, v, 19
Visitors, xiii
Vital statistics, 40, 384, 440
Vivisection, 2, 12, 32, 422, 424

WALK, J. W., 19
Walker, J. B., 19
Wallace, R. I., 20
Warm, 160

Warren County Society, 487
Washington County Society, 377, 487
Water supply, 350
Weaver, J. K., 19
Weaver, W. G., 20, 377
Weidman, W. M., 12, 17, 18, 19, 29, 30.
Welch, Wm., 16, 25.
Welcome, address of, 1
Wenck, M. Mc C., 22, 198
Wentz, A. C., 9, 19
Westmoreland County Society, 488
Willetts, J. E., 32, 319
Williard, De F., 361
Wilmarth, A. F., 290
Wilson, J. H., 12, 14, 18, 19
Woman's hospital, 22, 213
Women physicians, 399, 401, 407, 409, 431, 434
Woodburn, S. M., 20

YORK COUNTY SOCIETY, 489

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